

Manufacturers Record

Reg. U. S. Patent Office



FEBRUARY, 1936

BALTIMORE, MD.

AUTOCRACY OR CONSTITUTIONAL GOVERNMENT

It is vital that the real issue before the country today shall not be obscured by the fantastic dreams of theorists, who would remake the entire order of life and progress in America.

Nor shall it be hidden by self-seeking politicians, who think only of saving their own place, while piling up debt beyond calculation upon other people.

In spite of criticism of the Supreme Court by agitators who purposely array class against class, the fact remains that the only institutions which are a bulwark between our individual liberty and despotic government, are the Supreme Court and a free press.

—AND WHY!



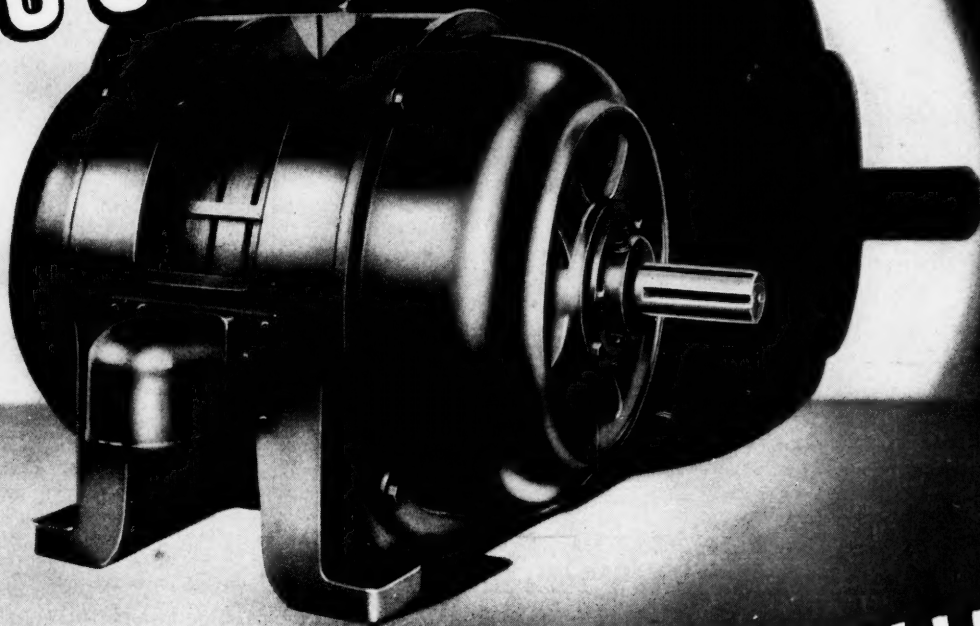
On the Willis Creek Dam at Conesville, Ohio, eight "Caterpillar" Diesel Tractors are keeping to schedule through the most difficult operating conditions.

In only four years, "Caterpillar" Diesel Tractors have become first choice for all kinds of projects. They star on the country's biggest jobs. They make possible lower bids, faster schedules, more profitable contracts. They head the list for economy in operating and up-keep costs, rugged dependability, and dollar-for-dollar investment. Over 10,000 owners have tested "Caterpillar" Diesel performance—and know it is the **SHOW-DOWN**. Get the facts from your dealer. Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

DIESEL

FEB R

TOUGH GUY...



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Tough guy? You bet he is! Beneath his husky frame lies a motor construction second to none. Self-aligning double row sealed-in ball bearings. The most solid, vibration-proof stator construction that your money can buy. These and dozens of other refinements planned and built by F-M master motor designers make Fairbanks-Morse Motors **THE** motor buy—tougher, longer lived, giving you more for your money in performance and trouble-free service.

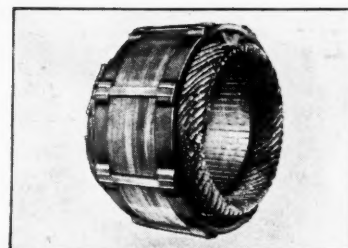
MORE F-M MOTOR FEATURES

Sealed-in ball bearings—"the highest priced ball bearings in the world"
Group wound coils — from a single piece of wire
Short, thick shafts
Measured lubrication
Heavily insulated, vibration-proof stators
One-piece rotor windings
All internal connections welded
Permanently plastic moisture-, oil- and acid-resisting insulation on all stator windings

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GROUP WOUND COILS—An entire phase group from a single piece of wire reduces lead connections—and these are **WELDED**, not soldered. This construction reduces the individual parts making up the pre-wound stator just as in the case of stator core.

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106
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PRECISION
MANUFACTURING

FAIRBANKS-MORSE

Motors



POWER, PUMPING AND WEIGHING EQUIPMENT

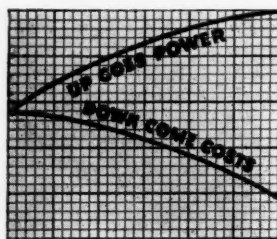


1 1/2-Ton Stake (131-inch and 157-inch wheelbase)

CHEVROLET

announces the most powerful and the most economical Chevrolet trucks ever offered to

TRUCK FLEET OWNERS



CHEVROLET introduces a new 1936 series of half-ton and 1 1/2-ton trucks. They are the most powerful Chevrolet trucks ever built. They are the most economical Chevrolet trucks ever built. They are the most ruggedly constructed Chevrolet trucks of all time.

These new Chevrolet trucks are equipped with perfected hydraulic brakes . . . the safest ever developed. The famous Chevrolet high-compression valve-in-head engine develops tremendous power. It performs under all speed and load conditions with remarkable economy. In every feature and detail—frame, axles, springs—there is extra strength, designed for dependable service over an extra long period of time.

You are urged to inspect these new trucks and witness a demonstration of their ability. And before you select any truck, get the facts on operating costs. Find out how and why these new Chevrolet trucks will save you money and increase your operating profit.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN



A GENERAL MOTORS VALUE

NEW PERFECTED HYDRAULIC BRAKES

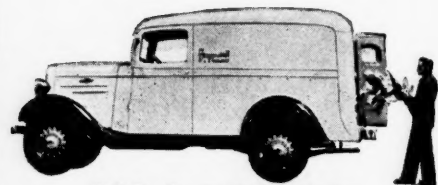
always equalized for quick, unswerving, "straight line" stops.

NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE

with increased power, increased torque, greater economy in gas and oil.

FULL-FLOATING REAR AXLE

with barrel type wheel bearings on 1 1/2-ton models.



Half-Ton Panel—112-inch wheelbase



Sedan Delivery



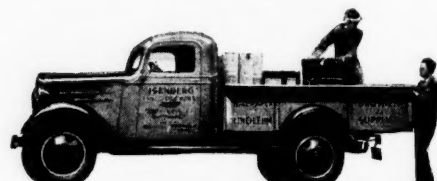
Half-Ton Canopy Express—112-inch wheelbase



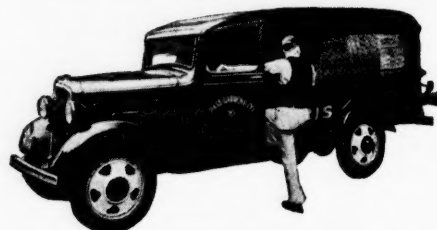
Half-Ton Pick-Up with Canopy—112-inch wheelbase



1 1/2-Ton Panel—131-inch wheelbase



1 1/2-Ton Open Express—131-inch wheelbase



1 1/2-Ton Canopy—131-inch wheelbase



1 1/2-Ton Truck—for trailer operation

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MANUFACTURERS RECORD FOR

TABLE OF CONTENTS

**FEBRUARY
1936**

Volume CV No. 2

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

Published Monthly

by the

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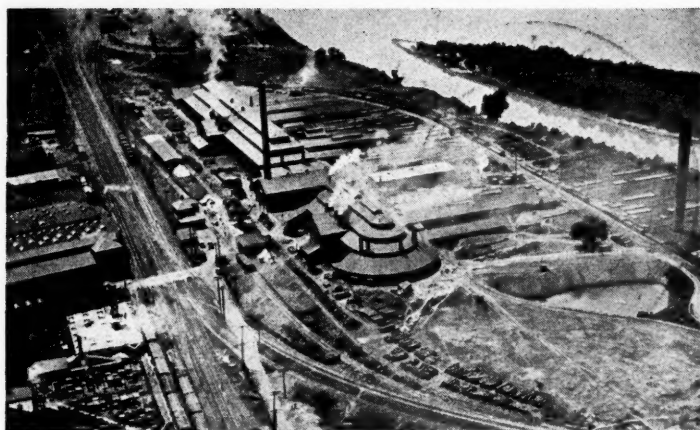
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FEBRUARY NINETEEN THIRTY-SIX



United States Pipe & Foundry Co. Makes \$700,000 Improvements to Chattanooga Plant

EDITORIALS

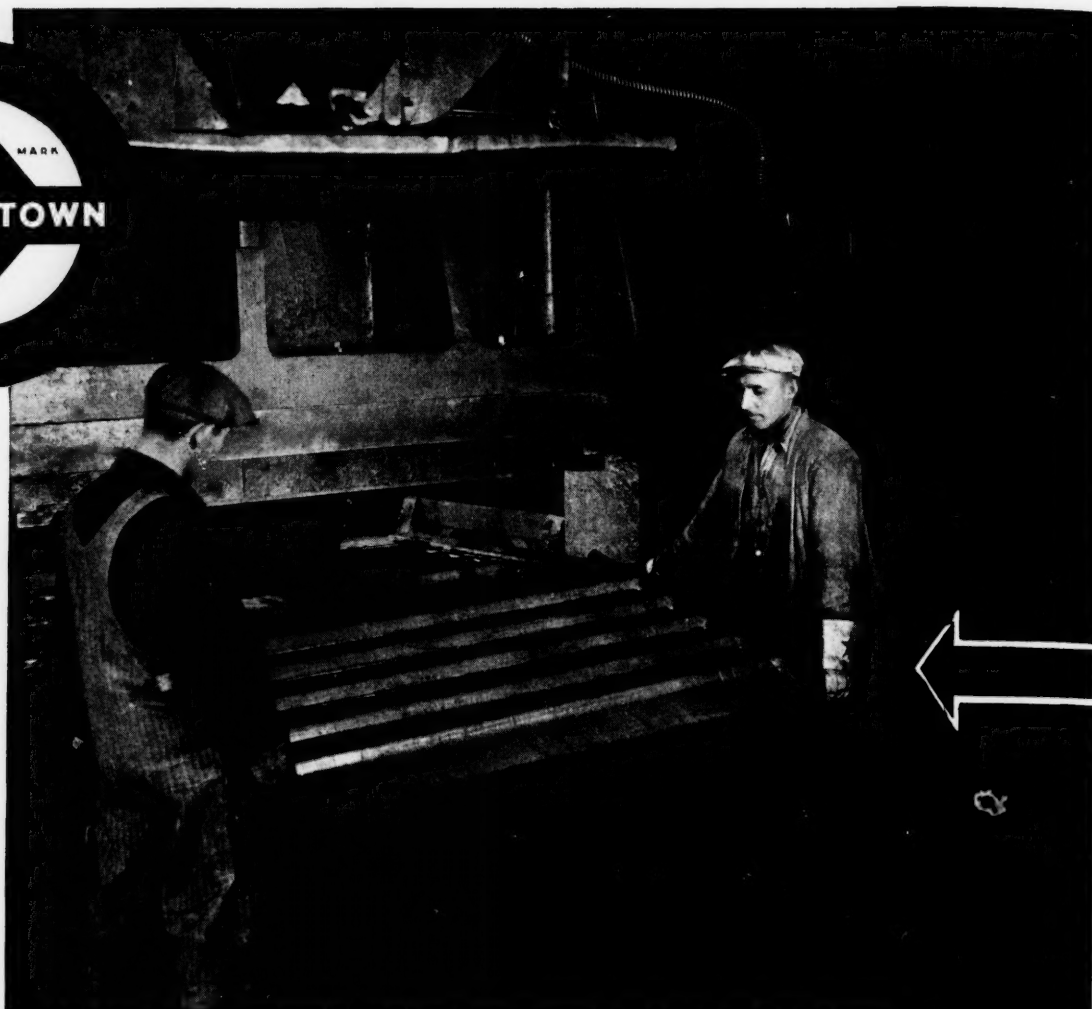
Autocracy or Constitutional Government	Cover Page
Wasting Taxpayers' Money	15
Facts to Remember	16
Mounting Cost of Government	17
Construction Improves	17

NEWS and FEATURE ARTICLES

Board of Review for Public Works	By Fred Lavis	18
"Yardstick" Plants Waste		18
Aluminum In the South	By George R. Gibbons	19
Diesel Power	By Howard L. Clark	22
The Success of "The American System"	By Carroll E. Williams	24
Traveling South by Rail and Highway		26
Savannah Hits Industrial Stride	By Mayor Thomas Gamble	27
Southern Construction Sets All-Time High in January		28
Important Sale of Steel Plant		30
Salt-Treated Lumber Dried		30
Highway Industry Set to Go	By Chas. M. Upham	40
Fills Many Contracts for the South		58
Industrial Expansion in Louisville		60
Baltimore Continues Industrial Expansion		60
Railroad Buying Gaining		62
South Leads in Furniture Manufacture	By J. T. Ryan	64
Where Passenger Fares and Freight Rates Go		75

SPECIAL DEPARTMENTS

Iron, Steel and Metal Markets	36
Lumber News of the Month	38
Equipment, New and Improved	42
Financial News	44
Are You Aware	48
Industrial News	52
Index for Buyers	74
Index of Advertisers	76



Photograph taken
in plant of
YOUNGSTOWN
STEEL DOOR CO.

COLD PRESSED CAR DOORS OF **YOLOY** STEEL

The practical workability of YOLOY IS graphically demonstrated in the photograph above. The cold forming operation at the joint indicated by the arrow demands a material with the ductility developed in YOLOY Steels. YOLOY met this $1\frac{1}{8}$ " intersecting cold draw with one blow of the 2600-ton high speed press.

Our research engineers will welcome an opportunity to discuss applications of YOLOY, the added performance steel of increased strength and corrosion resistance.

THE YOUNGSTOWN SHEET AND TUBE CO.

Manufacturers of Carbon and Alloy Steels

General Offices - - - YOUNGSTOWN, OHIO

567



**RESOLVED TO CUT
OPERATING COSTS
IN 1936 WITH
Firestone
GUM-DIPPED TIRES**

WHETHER you operate one truck or one hundred, decide now to lower your operating costs for 1936. Put Firestone Gum-Dipped Tires on every wheel. They will save you money and give you more dependable service.

The body of a Firestone Tire is built with Gum-Dipped High Stretch cords. That's why they run cooler and give you longer mileage.

The heavier, more rugged tread is securely locked to the cord body by two extra layers of Gum-Dipped High Stretch cords. These are patented Firestone construction features not used in *any other tire*.

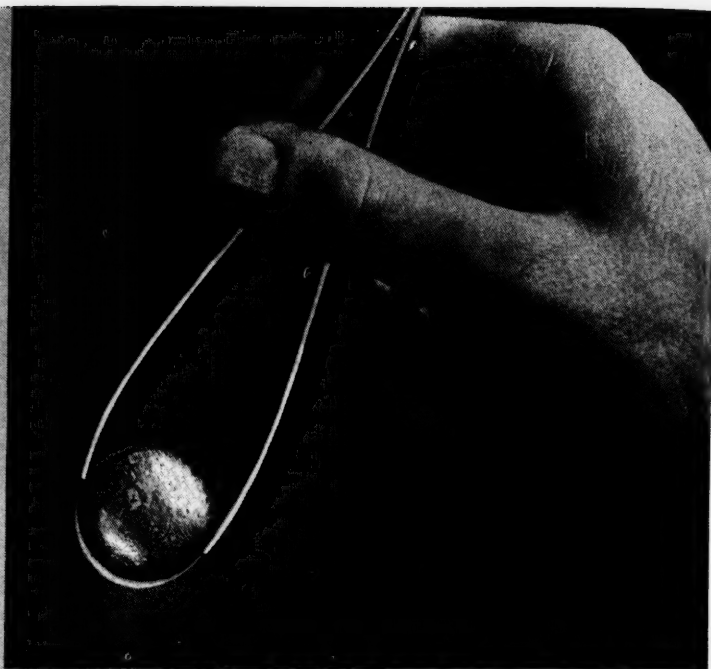
Equip now with Firestone Gum-Dipped Tires and start cutting your operating costs today. The nearby Firestone Auto Supply and Service Store or Firestone Tire Dealer is ready to serve you.

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**ON TIME
SCHEDULES
•
FASTER, MORE
DEPENDABLE
SERVICE
•
LOWER
OPERATING
COSTS**

FIFTY FLEETING YEARS AGO



★ *A* lad of twenty-two held in his hand a little pellet of shining metal . . . the beginning of a new industry.

It was the morning of February 23, 1886, only fifty fleeting years ago. The scene, a woodshed in Oberlin, Ohio. The lad, CHARLES MARTIN HALL.

Every other place in the world, Aluminum was a semiprecious metal, a laboratory curiosity costing \$8.00 or \$9.00 a pound. But at that instant, in that woodshed, Aluminum had at last joined the rank of useful metals.

That hushed moment, with young Hall standing alone with success, was the climax of a feverish search. The inspiration had come from an off-hand observation by his Oberlin College professor, Frank Fanning Jewett, to the effect that the man who could invent a process for making Aluminum on a commercial scale would not only be a benefactor to the world, but would also lay up for himself a great fortune.

Hall's search had been an obsession. Much of his spare time after school hours was spent in dogged effort. But all the chemical knowledge at Hall's command was applied to no avail.

The flash of inspiration had come eight months after he had finished college:—Might not electricity hold the hidden answer?

Borrowing battery jars and plates from the school laboratory, investing meagre savings in a

small clay crucible, making other crude apparatus by hand, he fitted up a laboratory in the woodshed behind his father's house.

Everything ready, he melted cryolite in his crucible, dissolved in it some refined Aluminum ore, switched on his batteries, and waited . . . but still there was no Aluminum!

He pondered the problem. Did impurities in the clay crucible affect the result? A carbon lining would eliminate that possibility. He made one.

Again the experiment was repeated. Hall waited; he emptied the crucible . . .

There were the shining pellets!

Success!

Success that had eluded the efforts of the world's greatest scientists. Success in a woodshed laboratory!

But there were dark days to follow. Two different groups of backers gave up his process as profitless and impractical.

Not until the summer of 1888, when Hall made an arrangement with a group of men who formed The Pittsburgh Reduction Company (now Aluminum Company of America) was Aluminum given its chance to come into its own.

These men foresaw the basis for a new industry in this new metal, which was only about one-third as heavy as older metals, would not rust or tarnish from exposure, and which would conduct heat and electricity rapidly.

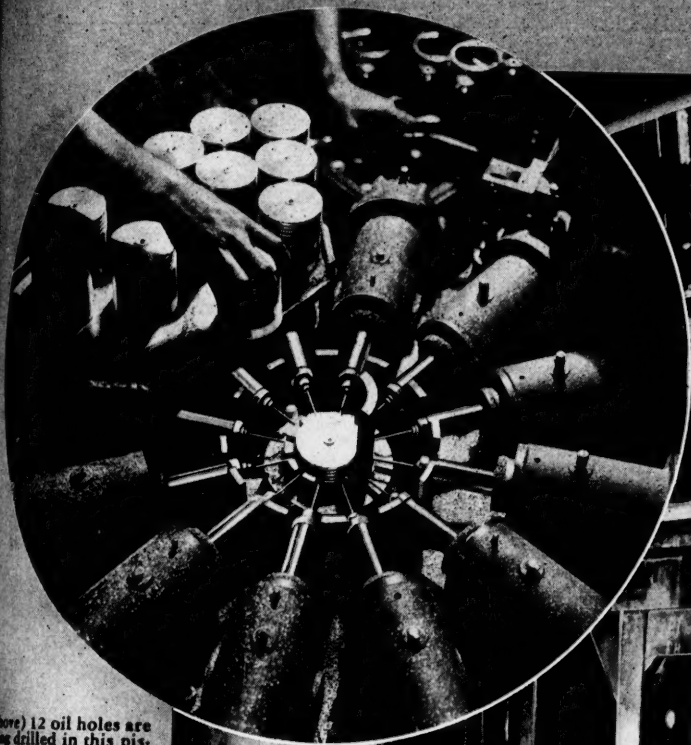
A FIFTIETH ANNIVERSARY MESSAGE FROM

ALUMINUM COMPANY OF AMERICA
MANUFACTURERS RECORD FOR

FOR MACHINES

that must not stop...

LEADING PLANTS USE GULF QUALITY LUBRICANTS



(Above) 12 oil holes are being drilled in this piston in one operation. The use of the right Gulf lubricant helps keep such automobile plant equipment as this in continuous, low cost service.

(Right) In one operation, this huge press shapes a steel fender from a flat steel blank. Gulf supplies a special lubricant used in the high pressure rolling system on this machine—which helps keep the costly equipment at its highest operating efficiency.

PROPER LUBRICATION *Helps Maintain Fixed Unit Costs for Operations*

One machine break-down—and up goes unit production cost!

That is why busy machine shops and metal working plants are placing this one big responsibility on lubricants today: *they expect the lubricant to help them maintain continuous operation and fixed unit costs.*

In metal working plants from Maine to Texas, Gulf engineers are helping plant operators get more efficient service from their equipment. The cost of oil and grease for a machine may be a small item, but a delay of only a few minutes—due to faulty lubrication—may play havoc with your operating schedules and your cost sheet.

Let a Gulf engineer help you increase the efficiency of your equipment—and reduce unit costs for operation.

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RADIO ANNOUNCEMENT:
Enjoy Gulf's new radio program featuring Phil Baker in "The Great American Tourist" over C. B. S. Sunday evenings 7:30 E. S. T.



"Do you feel that 15 days' study is to be compared with 15 years' service?" asked the visitor.



MID-MORNING in the office of one of America's greatest industrialists. A business caller is announced, ushered in, seated.

The executive speaks: "I am afraid I shall not be able to continue to do business with you. I have a proposition from one of your competitors. They have studied our plant here for the past fifteen days. They promise to cut oil costs by 25%. What would you do?"

"Take it," responded the caller. "That is, if you feel that their fifteen days' study carries sufficient assurance. But for 15 years we have served your plant and know your operating problems."

The president replied, "I thought you would say that. Here is your contract. I

won't buy 'futures' in lubrication."

More and more plants are refusing to buy "futures" in lubrication. Penalties of such speculation are usually high power consumption, lower machine efficiency, mounting maintenance expense, excessive cost for lubricants. The economical procedure is to buy "Correct Lubrication."

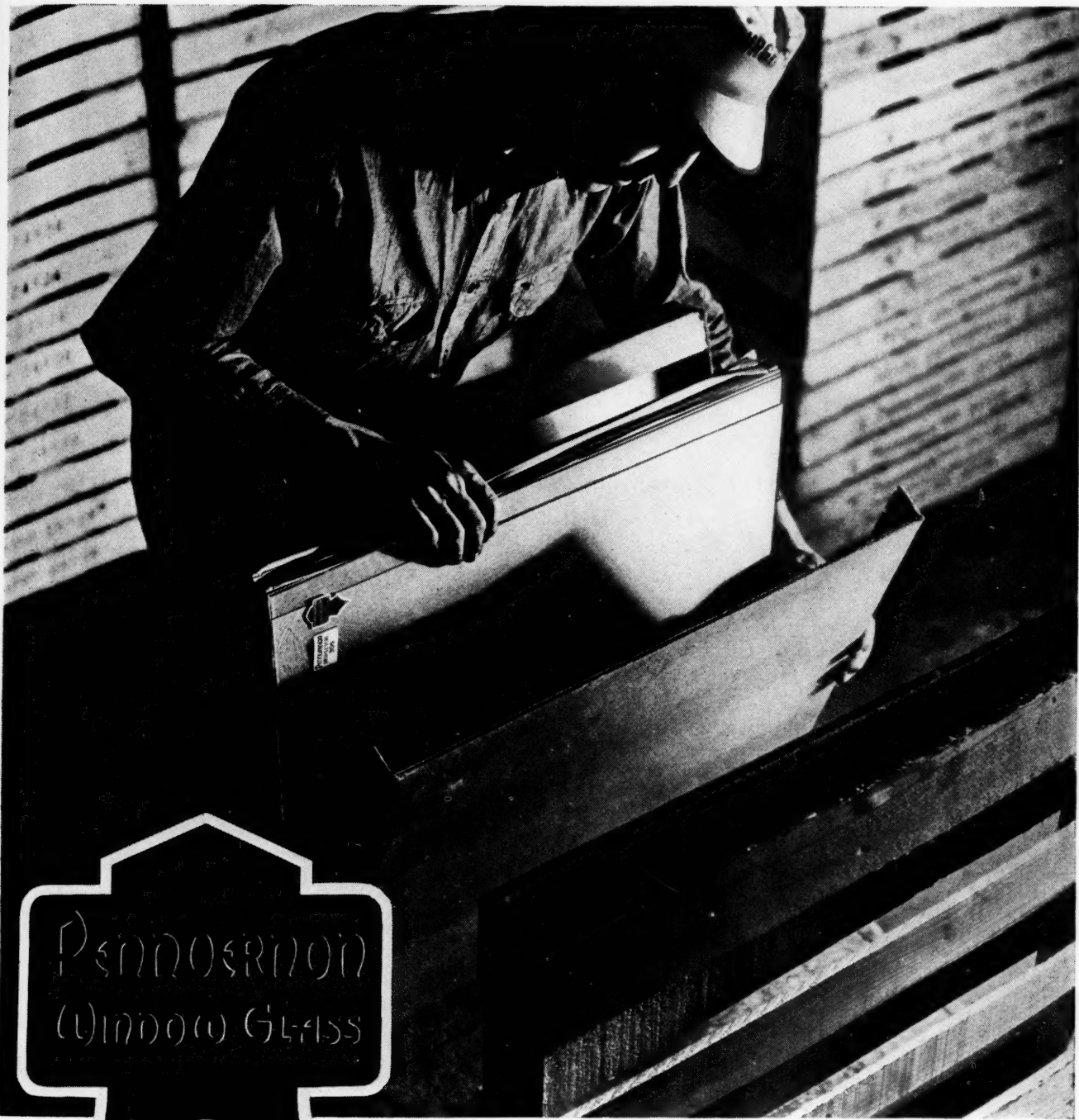
Socony-Vacuum has developed an unmatched technical skill in fitting suitable lubricants to your specific operating condi-

tions. Also, a knack of friendly cooperation in aiding managements, engineers and plant personnel to create economies measurable in dollars. Thousands of plants in all industries have this rule—"Talk with the Socony-Vacuum representative when he calls."

This trade-mark is backed up by an exclusive asset—70 years' experience.



Use "PennvernON"...not just "window glass"



PennvernON
Window Glass

A

WELL PACKED FOR A JOURNEY is PennvernON Window Glass before it is shipped! This PennvernON Craftsman places the glass, with paper between the lights, in a corrugated carton . . . asphalt-lined, moisture-proof. Then the carton slides easily into the specially designed wood crate. Thus PennvernON travels more securely, is easier and safer to handle.

Our new booklet, called "The Making of a Leader", describes in dramatic pictures the manufacture of PennvernON Window Glass. To get your free copy of this interesting book, sign and mail this coupon to

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Listen to the Music You Love played on the air by the Pittsburgh Symphony Orchestra. Watch your local papers for announcement of first program.

FEBRUARY NINETEEN THIRTY-SIX

11

YOUR MONEY'S WORTH

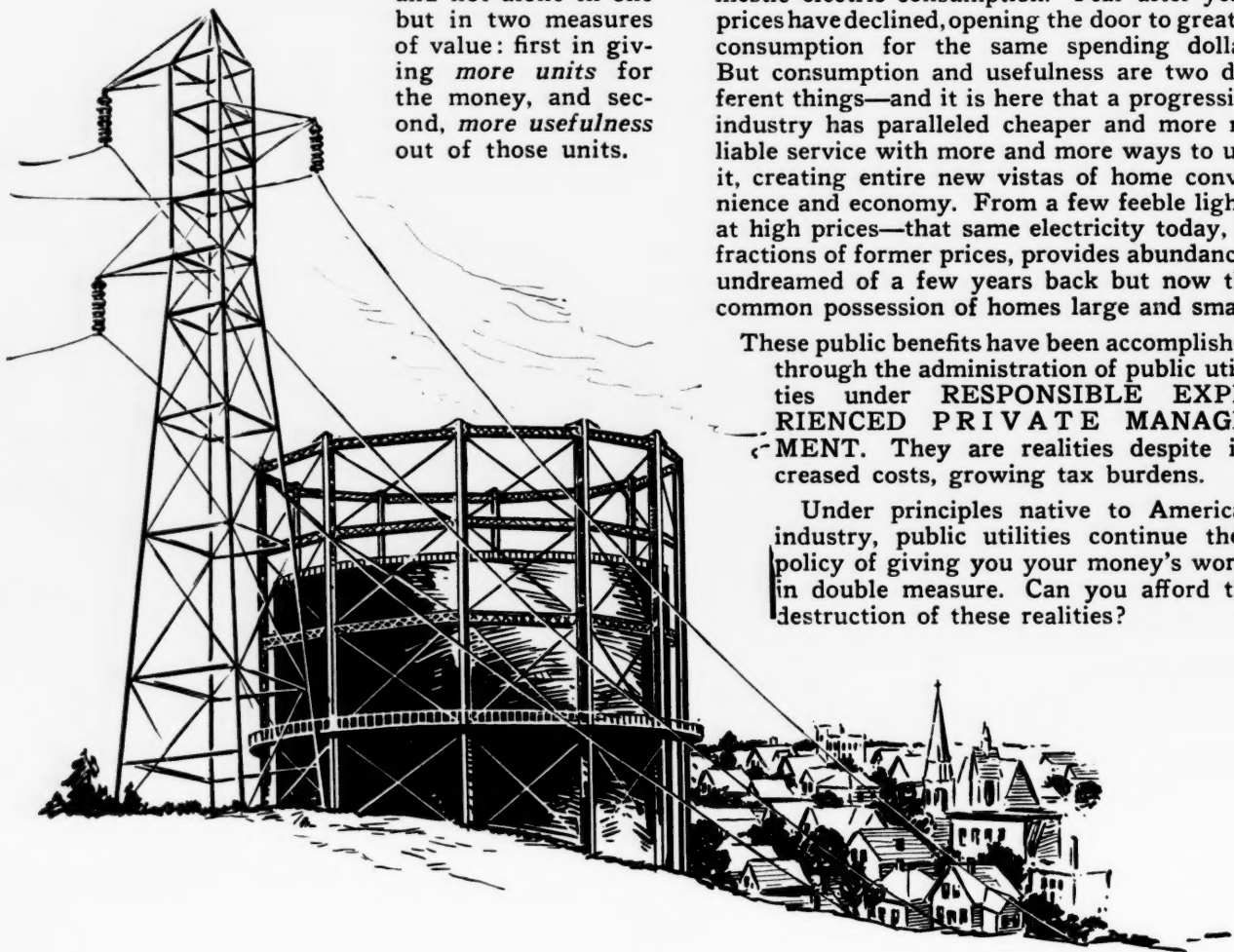
In this day when mounting taxation bears continually heavier—and public utilities are in the limelight of political attack, it is timely to consider the "value received" in electric service as compared with other public services.

ELECTRIC service is delivering "your money's worth" in increasing volume—and not alone in one but in two measures of value: first in giving *more units* for the money, and second, *more usefulness* out of those units.

Nowhere is this double money's worth more simply and tangibly demonstrated than in domestic electric consumption. Year after year, prices have declined, opening the door to greater consumption for the same spending dollar. But consumption and usefulness are two different things—and it is here that a progressive industry has paralleled cheaper and more reliable service with more and more ways to use it, creating entire new vistas of home convenience and economy. From a few feeble lights at high prices—that same electricity today, at fractions of former prices, provides abundances undreamed of a few years back but now the common possession of homes large and small.

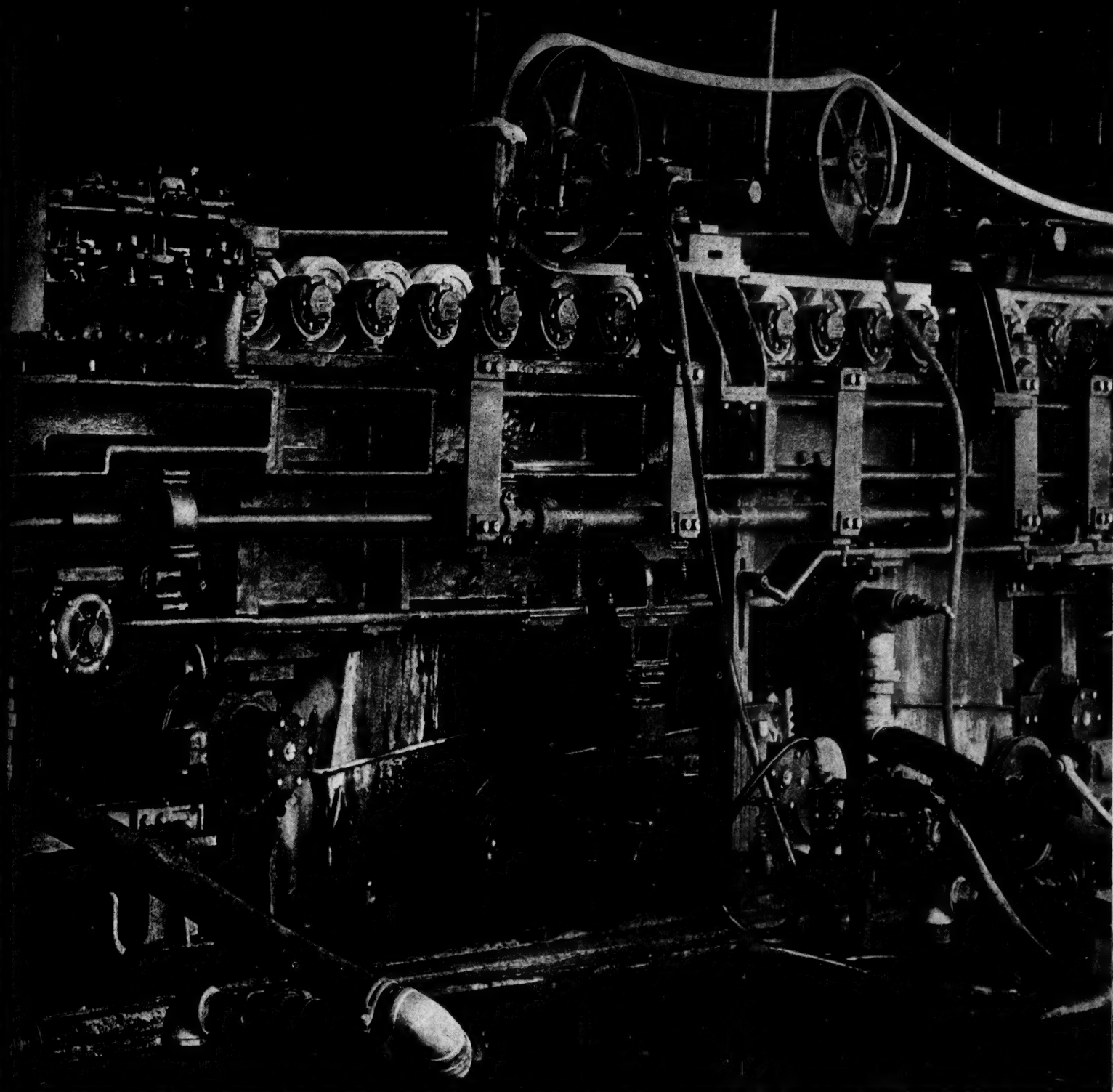
These public benefits have been accomplished through the administration of public utilities under **RESPONSIBLE EXPERIENCED PRIVATE MANAGEMENT**. They are realities despite increased costs, growing tax burdens.

Under principles native to American industry, public utilities continue their policy of giving you your money's worth in double measure. Can you afford the destruction of these realities?



The
**COMMONWEALTH & SOUTHERN
CORPORATION**

MICHIGAN - OHIO - ILLINOIS - INDIANA - PENNSYLVANIA - GEORGIA - FLORIDA - MISSISSIPPI - SO. CAROLINA - ALABAMA - TENNESSEE



ANNOUNCING the improved "Puseyjones" Fourdrinier Wet End with all parts of non-corroding, acid resisting construction. Castings *formerly* made of bronze, iron or steel and painted, are *now* of "Hybnickle", a special stainless steel alloy, exclusive with The Pusey and Jones Corporation, produced in the latest type electric furnace.

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THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-making Machinery

[NEWS-PRINT : BOOK PAPER : KRAFT : BOARD]

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It's better to buy the best . . .

Play safe, be sure. Consider transmission belting with all the care it deserves. Specify HEWITT. Forward looking plant officials do not depend on miracles to achieve operating economies—they compare performance, check costs. And in these plants, HEWITT transmission belting has become an essential part of their program. Whatever your service demands, there is the right type of HEWITT belting available. Get in touch with a HEWITT distributor and talk it over with him secure in the knowledge you will get honest value . . . longer, more satisfac-

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WASTING TAXPAYERS' MONEY

EXCESSIVE cost of some government practices is strikingly illustrated in a comparison of registration expenses in two large cities. To enroll voters periodically during the past four years required an outlay of \$1.10 for each registrant in one city. This represents only the cost of recording names in books at various precinct booths throughout the city and does not include the expenses of election supervisors headquarters, salaries of election executives, printing, books and other expenses. The last general registration of 287,460 voters cost \$151,360, an average of over 52 cents per name, but in a supplemental registration of 8,469 voters the cost was \$63,168, or \$7.46 for each name added to the voting list. These expenses were not the cost of holding an election, but merely the cost of recording the names of those entitled to vote.

Election officials do not have to make a house-to-house canvass. The eligible voters go to a central point and all that is required is their signature on the registration books.

In another large city the cost of registration was 13.7 cents for each voter, which would seem to be more than ample. The spread between the cost in the two cities was due partly to the fact that in the first a periodical registration is required and in the second a permanent registration system is employed. Under the latter plan, when a citizen is once enrolled as a voter his name remains on the registration list unless removal is necessary because of change of residence or death. A voter also has the privilege of enrolling at any time during the year and does not lose his chance to register because of illness or temporary absence from the city on a designated registration date.

The difficulty of bringing about reform in methods, which are wasteful and extravagant, is that politicians have so framed the election laws as to create in this another opportunity for the "faithful" to dip into the public treasury for easy money—put up by hard-pressed taxpayers.

Of course, such waste should be stopped, but there is very little done about it. We accept the rule of the politician in matters of finance, although we know that in the cost of government in other ways there is much overlapping and duplication, and lack of efficiency that could be quickly eliminated by the adoption of business-like methods. This condition will continue so long as people are satisfied, or so long as they do nothing about it.

There is waste of another kind in the handling of public affairs, in having untrained men manage our cities, the business of which in many cases runs into millions of dollars. If these large enterprises were private concerns, only men of wide experience and training would be considered.

The philosophy of the "bosses" is to pick winners without much thought given to ability to perform an economical job. Voters, except those with an ax to grind, are indifferent until too late. This is true of elective offices and very much more flagrant in the selection of political appointees. Here, merit seems to be in the discard, locally and nationally. The politicians' debts are thus paid. Scandalous waste of taxpayers' money is talked about, but there is no general consciousness of the cost to those who put up the money.

The National Institute of Public Affairs has arranged for 30 young college men, every year, to have nine months' employment in important offices of government at Washington. There they are expected to receive practical training which will be a foundation for possible useful careers in public service.

Credit will be given in their college course. Three hundred colleges are said to be participating in the selection of candidates, based upon scholarship standing.

"Career men," as they are known abroad,—men trained and working for government without personal concern about political changes—would soon prove their value here as they have in other countries.

"The sane people of the country are opposed to the introduction of more weird theories. They want some of those that have been adopted thrown out. Business will go forward with confidence if the President will declare his unfaltering primary purpose to be recovery and not reform nor 'free social cooperation' and other sociological sophistries." — MANUFACTURERS RECORD, May, 1934.

FACTS TO REMEMBER

"WHY hasn't a coal mine, or a plow factory, or a textile mill, or a steel plant in the South just as good an opportunity to succeed as such plants located anywhere else?" the *Alabama Journal* recently asked. Then, replying to the interrogation it answered: "First, there is an annual cash trade balance against the South of \$1,000,000,000. That is, the South spends annually \$1,000,000,000 more in the North than the North spends in the South." It cited the distance from markets as a deterrent factor. "In large industries the South is almost wholly dependent upon outside capital," it declared.

While disadvantages with which industry has to contend arise from time to time in every section, the success industry as a whole has met in the South is a complete answer to questions about the fullness of the opportunity to be found here. The advantages existing and opportunities for great development along industrial lines offset the disadvantages to a degree that turn the scale heavily in the South's favor and make the outlook bright for future expansion.

For productive enterprise, the Southern states embrace the most favored area of the country. True, there would have been even greater progress if there had been more capital, but when it is considered that the South's capital was wiped out by the war between the states and industry started with nothing, the progress that has been made is amazing.

Today it should be noted that local capital is taking an increasing part in Southern progress and is a factor of major importance and encouragement. The Comptroller of the Currency reported June 30, 1934, deposits in Southern banks, including savings, of \$5,070,301,000, or more than one-eighth of all the money on deposit in the entire 48 states. Southern building and loan associations January 1, 1934, had total assets of \$1,174,316,000, or about one-sixth of the total for the country. Southern life insurance companies, which have grown greatly in importance and strength in recent years, are investing at home a large part of the money they receive. Nationally known financial institutions are investing heavily in the South.

Industrial enterprises by and large have in the South a *better* opportunity than the same kind of plants located elsewhere.

The success of thousands of businesses, great and small, proves it. Even though they are not located in close proximity to great centers of population, such as are found in the North and Central West, they are selling profitably in remote markets. Meanwhile, the consuming power of the South is steadily mounting.

The South had 28,000 manufacturing establishments, while the value of the products made were \$6,122,500,000, according to the census figures of 1933, which are the latest available. These figures had declined below the 1931 Census returns, but they are for a depression year and the fact that Southern manufactures declined in value 15.7 per cent, when contrasted with a decrease of 25 per cent for the rest

of the country, shows that this section maintained a better production record than other sections.

The number of wage earners increased in Southern factories in 1933 over those employed in 1931, although the entire country showed a material decline.

Last year chemical plants, costing more than \$30,000,000, were completed in the South.

The advantages for chemical manufacture surpass those of any other section, scientists freely admit. Dr. Herty's work with Southern pine, that will meet the nation's requirements for newsprint, is an indication of what the utilization of the South's boundless resources for chemical products will mean in new wealth and employment to the South and the country.

The forests, fields and mines of the South abound in resources needed in our modern life. Space will not permit enumeration of the items in this storehouse. It is enough to call attention to the vast deposits of coal, iron, phosphate rock, sulphur, lead, zinc and granite; the hardwood and softwood forests; the abundant hydro-electric power resources and cheap fuels for power production, coupled with a plentiful supply of intelligent, Anglo-Saxon labor, upon which all the progress which has taken place and is to come is primarily based.

The South boasts a labor supply of 90 per cent or more American stock, in striking contrast to conditions in some of the industrial centers of the East where 68 to 70 per cent of the labor is of foreign stock, meaning that one or both parents were born abroad.

It is well to call attention again to a few facts regarding what Southern industry has already accomplished. A development that has reached vast proportions is seen on every hand. It will surpass in its future stride anything known before.

The South produces almost \$1,000,000,000 annually of mine and quarry products, or about 40 per cent of the mineral value the country produces.

The South has more than 60 per cent of the cotton goods manufacturing capacity of the United States.

The South has 70 per cent of the rayon manufacturing capacity of the United States.

The South produces most of the Kraft paper made in America.

The South produces 100 per cent of the carbon black produced in America, and

- 100 per cent of the rosin
- 99 per cent of the phosphate rock
- 99 per cent of the sulphur
- 92 per cent of the cigarettes
- 80 per cent of the fertilizers
- 78 per cent of the mica
- 76 per cent of the Fullers' earth
- 73 per cent of the hardwood
- 69 per cent of the petroleum
- 50 per cent of the feldspar
- 49 per cent of the aluminum
- 44 per cent of the lead
- 41 per cent of the clay products
- 40 per cent of the coal

Facts such as these leave no room for doubt of what the South's future industrial growth will be. "The development of the South means the enrichment of the nation."

MOUNTING COST OF GOVERNMENT

THE President said in his speech of January 3 on the state of the Union: "We approach a balance of the national budget. * * * It is my belief that no new taxes over and above the present taxes are advisable or necessary."

It is clear he did not take into account the payment of the bonus, nor could he have known of the AAA decision of the Supreme Court requiring \$200,000,000 in processing taxes to be paid back.

In view of the disclosures recently made by Secretary Morgenthau before the Senate Finance Committee, about what is necessary to be done this year in new financing and refunding of old debts, there doesn't seem much chance of making even the approach to the balanced budget for which the country waits.

An orgy of reckless spending continues, while the masses of the people apparently remain in ignorance that the sums being voted will make heavy increases in taxes inevitable. Some of these taxes although perhaps to be invisible, as many forms of taxes are now, will be none the less real.

The Secretary of the Treasury has revealed that the government is concerned with borrowing operations that will be necessary between now and the end of the next fiscal year, June 30, of \$11,300,000,000, not counting \$2,500,000,000 or more that will be required for the bonus and a possible additional billion for further AAA tax refunds and contract settlements.

The accumulated red ink balance between receipts and expenditures since June, 1933, is around \$12,000,000,000 and in another year it promises to be as much as \$15,000,000,000.

The staggering cost of the New Deal, with its multitudinous bureaus and jobholders, means more taxes. They cannot be avoided now, but the basis of their assessment can be broadened to include every citizen of the land.

Insidious, invisible taxes are not fully realized by any of us. Certainly they are not taken into account by our political representatives who gaily vote billions, to be paid they know not how. Their program has been to soak the rich, but they must know that the rich pass it on. Every tax it is possible to pass on is passed on to the consumers, who pay more for food, more for rent and clothing, and only know the price has gone up without realizing they are paying for the extravagance of a profligate government.

Admitting that those who can pay should pay more than those who are less fortunately situated, it remains true that to stir the people to an interest in governmental affairs through their tax bills, will do more to develop a demand for sound government and care on the part of politicians in making appropriations than anything else.

Governor LaFollette of Wisconsin said in a recent speech, "the country will not have confidence until men who want to work are given work." He implied, notwithstanding the fear about what the future holds on the part of industrialists and investors who pro-

vide jobs, that jobs should be found for the idle. Unfortunately, he did not say how the jobs could be found. They won't be found until private industry needs more help and this will not occur until private industry's goods are in greater demand. One way of increasing this demand is for people who have jobs to buy more goods. But they can't buy more goods when taxes, visible and invisible, are taking more and still more of what they earn.

We said last month in this place that taxes, like vice, are insidious. We do not stop to think that the tax on our gasoline is more than the cost of production. To the clothes we wear and the food we eat and the house rent we pay, there is added more and more of a tax burden, hard to trace to its source. Not for luxuries alone, because these should bear their share first, but for the absolute necessities of life, which fall with equal hardship on the employed and unemployed.

There is too much lethargy about it. Business men know these things, but do their employees and the man on the street know them?

One of the metropolitan papers recently expressed amazement when the Relief Administrator at New York revealed that one family out of every four had been receiving relief in the last few months. How is it possible, it was asked, to view the busy throngs, the web of traffic, the subways roaring along with their loads, the opera houses filled and every evidence of life of a rich community before the eyes, and believe that one out of every four of these people were on relief?

Spread the tax base. The public voice may be counted on to rebuke those who waste the substance of the country and to demand an accounting not only in finance, but in the making of laws that dry up confidence, when confidence is so necessary—laws our representatives know are wrong when they make them. If there is not a consciousness widespread and general of what is going on, the awakening, though delayed, is likely to be a sad one.

Secretary Morgenthau, in answer to a question by Senator Bailey, is quoted as having said, "The minute I cannot raise the money required to finance the government, that minute there will be complete chaos."

CONSTRUCTION IMPROVES

PRIVATELY financed building operations and industrial plant expansions dominate current construction activities in the South.

The award of contracts totaling over \$104,000,000 in January brought the past four-month total in the 16 Southern states to more than \$336,000,000, equal to half of the awards in all 1935 and within \$50,000,000 of the value of contracts let during the entire year of 1933.

Projects of every kind regarding which preliminary announcements were made during January, and which are now in the "contracts to be let" stage, aggregate \$176,000,000.

Road-building proposed this year in the South calls for an outlay in excess of \$500,000,000.

Board of Review for Public Works "Yardstick" Plants Waste

Engineers' Society Committee Reports Information on Utilities' Costs Already Available and Hits Duplication

THE proposal made by the engineering-economics and finance division of the American Society of Civil Engineers that a Federal public works program should be based on sound economic principles, and should be formulated by a permanent and non-partisan authority, deserves much more than passing consideration.

The imperative need for a qualified body, free from political domination, that would relegate to the discard the "boon-doggling" type of public works, is strikingly evidenced in the wanton waste on CWA and later schemes.

A way must be found to limit Federal public works expenditures to meritorious projects. *Editor, Manufacturers Record.*

By
Fred Lavis,
Consulting Engineer,
New York, N. Y.

AT the annual meeting of the American Society of Civil Engineers, held in New York on January 15, the Committee on Engineering-Economics and Finance presented a report on "Principles to Control Government Expenditures for Public Works."

The basic feature of this report was a proposal to set up a permanent "Board of Review" in Washington to which might or should be referred, for an authoritative opinion, all Federal projects for the expenditure of governmental monies for Public Works.

The suggestion of the writer was that this Board should be comparable, in the character of its constituent members, to that of the members of the Supreme Court of the United States, and that its members should be appointed for long terms or for life. Adequate means should be set up for their selection entirely on the basis of merit, insuring men of the very highest caliber in the engineering profession.

It is proposed that such a Board should consider economic values as well as the practical technical engineering features of such projects as might be submitted to it.

In using the word economic, this was defined in the broadest terms so that it would cover the consideration of the many works of a public-character which might contribute to the social welfare and recreation of the people as well as what might be called projects of a strictly utilitarian or even commercial character.

That is to say, such a Board, although applying the fundamental principles of economics, would not be debarred thereby, if these be properly interpreted, from recommending, for instance, the reservation of lands for parks and their development, the construction of scenic highways, as well as such commercial or semi-commercial projects as dams for the development of water power, for flood control, irrigation, etc., etc. A

sufficiently broad conception of economics, as affecting the whole country, would not preclude, of course, adoption under certain conditions of relief or other emergency projects.

Such a Board, once firmly established in the confidence of the people, would relieve legislators of the terrific burden they now have to carry in passing on the merits of the very large number of projects they are asked to sponsor and for which appropriations are asked. The principle might also be applied to State as well as Federal governments.

It would be expected, of course, that a Board of this character would cooperate to the fullest extent with the heads of the engineering departments of all branches of the government and that these latter would continue to function as they do now or as their activities might be coordinated with this proposed Superior Board.

The important feature is, however, that this Board, harking back again to the comparison as to the character of its members with that of the members of the Supreme Court of the United States, should be free to express fearless independent opinions, unembarrassed by the restrictions which may often affect the free expression of the opinions of direct employees of the Government.

The right type of men would, of course, seek to cooperate and have only one object—the welfare of the United States. If such a body were made up of experienced broad-minded, far-looking, well informed engineers, it should be of almost inestimable value to our country, and be the means of lifting some of the present heavy burden from the shoulders of our legislators.

Members of the committee that reported on "Principles to Control Governmental Expenditures for Public Works," include besides Mr. Lavis, the following: Genl. Chas. Keller, chairman, Winnetka, Ill.
W. W. DeBerard, Chicago, Ill.
L. C. Sabin, Cleveland, O.

THE scheme of creating 'yardsticks' for public utility plants is unnecessary, expensive and unjustified," the engineering-economics and finance division of the American Society of Civil Engineers reported.

Headed by Edwin F. Wendt, of Washington, the division's committee declared that all information that such "yardsticks" could possibly yield might be had from a study of the numerous publicly-owned electric, gas and water supply plants that now exist. "These are of all sizes and varieties and their capital and operating costs are either public records or else may readily be obtained," the report held.

A "yardstick" plant, it was pointed out, would duplicate existing facilities at great expense to the taxpayers and result in tremendous waste.

The report opened by setting forth seven principles for control of a Federal Works Program. They follow:

The program should be based on sound economic considerations exclusively, and it should be formulated by a permanent and non-partisan Federal agency, preferably one as unbiased as the United States Supreme Court.

Only those projects should be included that will answer a definite and well established public need which cannot be met reasonably by private capital.

No project should be included which would duplicate or impair the value of existing property and facilities that afford adequate service to the public at reasonable rates.

Projects should be classified in the order of their relative merit, this to be judged on the basis of national rather than merely local benefits.

In classifying meritorious projects and in undertaking them, due weight should be given to their location with respect to the centers of employment and to the amount of labor they will call for.

No project which cannot be justified in the light of the previous principles should be adopted merely to furnish employment.

In evaluating the benefits which would result from a project, it is important that all items of cost of the project, both direct and indirect, be considered. This is particularly necessary when the project is to take the place of an existing facility.

Members of the executive committee of the Engineering-Economics and Finance Division include:

Edwin F. Wendt, chairman, Washington, D. C.
Frederick H. McDonald, secretary, Atlanta, Ga.
E. P. Goodrich, Brooklyn, N. Y.
Daniel W. Mead, Madison, Wis.
Frederick H. Fowler, San Francisco, Calif.

ALUMINUM IN THE SOUTH

By

George R. Gibbons

Senior Vice President, Aluminum Company of America

LIKE the Western farmer who said of the first railroad train that passed through his town, "They'll never start 'er," and as it puffed out of the station, "They'll never stop 'er," people of every locality look with skepticism upon most developments fraught with great future significance.

"Thar aint no use'n yoreall attryin' to stop that thar river by pourin' concrete into it; yore just awastin' uv yore time. The fust spring freshet 'll come a whoopin' down hyar and wash everything out yoreall done put in thar." With these words a mountain man offered comment upon the first undertaking to dam one of the turbulent streams of the Great Smoky Mountains whose vast power potentialities were being harnessed to the wheels of industry.

In so speaking, he voiced the funda-

mental difference between the concepts and knowledge of a passing age and the vision of a non-sectional people as to the vast resources and possibilities of a particular section of this great country. This is especially true of the South. Men who were born there and have moved away or who grew up elsewhere, are seeking it out as a promised land. Any number of illustrations could be cited in token of this movement. The aluminum industry, a typical example, is distinctly clearcut in its recognition of the promise offered by the resources of the South for stable expansion and assured security.

Aluminum Ranks Fifth in Metal Consumption

If measured in tons, consumed aluminum ranks fifth in the scale of metals. This is truly remarkable when it is recalled that the commercial history of aluminum is less than fifty years old and that it has attained this rank in competition with other metals and materials whose uses are centuries old. It is all the more interesting in relation to the development of the South when one remembers that bauxite, the ore from which aluminum is extracted, was found in commercial quantities in Georgia about a half century ago, and that the hydro-electric possibilities of the South were recognized within the past quarter-century.

Fabricating Plants at the Alcoa, Tenn., Works of Aluminum Company of America



George R. Gibbons

This well known industrialist is a true son of the South. He was born in Bartow County, Georgia, the son of John R. Gibbons of Virginia, and Annie Felton Gibbons of Georgia. His father was a Confederate soldier throughout the war between the States. Attended public school in Rome and Hermitage, Georgia, prepared for college at Piedmont Institute, Rockmart, Georgia, and received his A. B. Degree from Emory University, of which he is now a Trustee. Mr. Gibbons' association with the aluminum industry really began in the generation of his father who was in charge of the bauxite and mining operations of the Aluminum Company of America in Georgia as well as in Arkansas for many years.





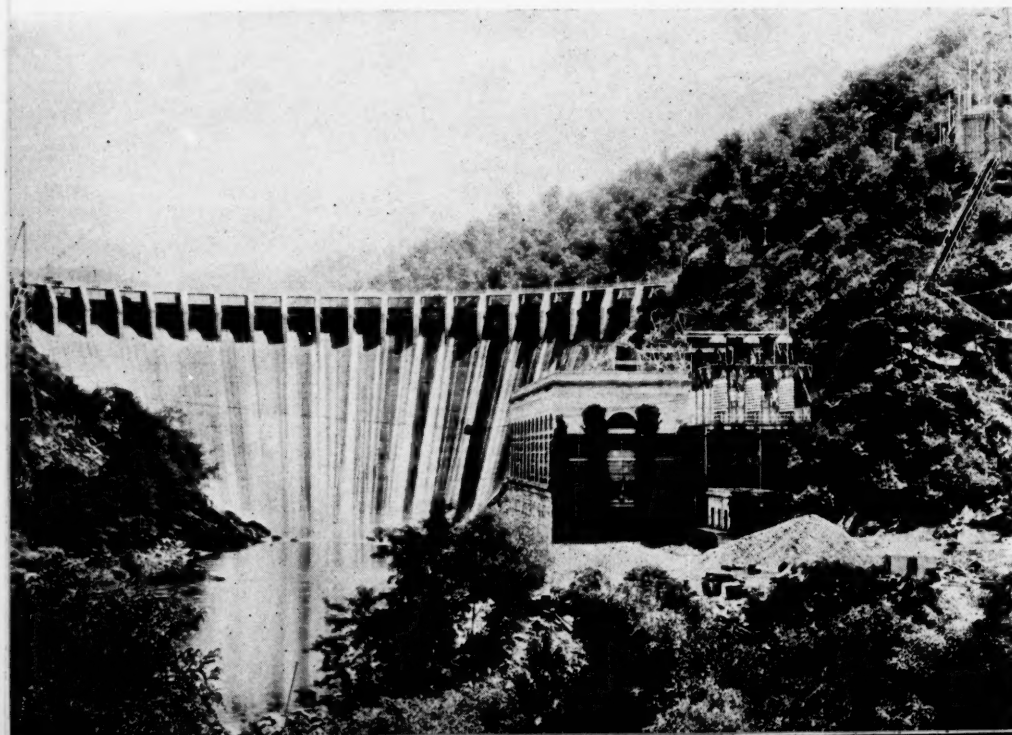
Mining Bauxite, the Ore of Aluminum, by Open Pit Methods at Bauxite, Ark.

Commercial Development

The discovery by Charles Martin Hall, a twenty-two year old lad, at Oberlin, Ohio, made possible the modern commercial development of the aluminum industry. Interested in chemistry from boyhood, after his graduation from Oberlin College in 1885, Hall pursued his efforts to solve the metallurgical riddle of aluminum which had intrigued scientists since early in the nineteenth century. He worked in an improvised laboratory in the "back woodshed" of his home. Believing that the elec-

Cheoah Dam and Power House

One of the hydroelectric developments of Aluminum Company of America on the Little Tennessee River System



trolytic process was the method by which aluminum could be produced on a commercially successful scale, Hall patiently followed this line of experimentation until success finally crowned his efforts on the morning of Feb. 23, 1886. Using molten cryolite as a bath in which to dissolve his ore of aluminum oxide, and substituting a carbon for a clay crucible, Hall sent the historic electric current from his home-made battery through the "charge" in his crucible; there, at last, in the bottom of the crucible were the shiny globules of aluminum!

Prior to Hall's discovery, aluminum was produced by expensive chemical processes. Although the most common of the metallic elements and comprising one-twelfth of the earth's crust, the separation of aluminum from the compounds in which it exists was so difficult that prior to 1886 it was a semi-precious metal, never having sold at less than \$8 a pound. The existence of aluminum had been foretold by Sir Humphrey Davy in 1807 and it had been isolated in metallic form by Oersted, a Danish chemist in 1825. A quarter of a century later, Deville, a French metallurgist, had devised a controlled but costly chemical method of producing aluminum. But it remained for Hall, the youthful son of a minister, whose family had moved to Oberlin, Ohio, and who were pinching pennies to educate their children at the college located there, to achieve an invention which was to create a great industry and bring fame and fortune to the inventor.

When Charles Martin Hall died in 1914, he left to educational institutions a fortune amounting to \$30,000,000. These beneficiaries were schools which provide an education for boys and girls in humble circumstances. One of them was his alma mater, Oberlin; another was a famous school of the South, Berea College at Berea, Kentucky. These benefactions would not have been possible except for the fortunate circum-

stance and the business acumen which led Hall in 1888 to cast his lot with a group of young business men in Pittsburgh, Pa. During the two years following his invention, Hall met with many obstacles in his efforts to peddle his process in the manufacturing centers. Prospective financial backers were either unimpressed, lacked vision or wanted to allow Hall very little for his share.

The Pittsburgh group, headed by Captain Alfred E. Hunt, agreed with Hall to undertake the commercialization of the new metal. This group raised the sum of \$20,000 and incorporated a small experimental company, known as The Pittsburgh Reduction Company, and gave Hall, rightfully, a generous share of its stock for his patents. This small corporation constituted the commercial beginnings of the aluminum industry. Its experiments were to lead to the practical application of this new metal in many fields and The Pittsburgh Reduction Company was to become the Aluminum Company of America. It is interesting to bear in mind that this industry was inaugurated less than fifty years ago; today there is invested in it many hundreds of millions of dollars in capital and it gives employment to many thousands of men.

Some years prior to Hall's discovery, an ore rich in aluminum content had been found in France upon the estate of an ancient family whose name, Beaux, had been given to the village near which the ore was discovered. This newly found mineral was appropriately called "beauxite," later Anglicized by omitting the "e" in the first syllable. By purifying the ore through an elaborate chemical process, the oxide of aluminum is obtained. This oxide, known as alumina, is employed in many of the arts for purposes other than the manufacture of aluminum, its use in abrasives, alum and polishing compounds being among the most important.

Bauxite Resources

Bauxite was first found in the United States in 1883 at Hermitage, near the town of Rome, Ga., and the ore was first shipped from Georgia for industrial use in 1889. In 1887, bauxite was found in Arkansas near Benton, about 22 miles west of Little Rock by John C. Branner, Arkansas State Geologist, although this discovery was not announced until 1889. It will be noted that these mineralogical discoveries of bauxite in the South, broadly speaking, coincided with the metallurgical discovery of the aluminum process in the North.

Bauxite deposits in the Southeastern states are found in northwestern Georgia, northeastern Alabama, southeastern Tennessee and central Georgia, and have been drawn upon extensively by the ab-

rasive, chemical and aluminum industries, which grew very rapidly during the early years of this century. At present these industries are also obtaining a large part of their bauxite supplies from the substantial deposits located in Arkansas. It is to be hoped that these are sufficient to meet the increasing industrial demands for this ore. Fortunately, the reserves of this important mineral in several foreign countries appear to be inexhaustible and could be drawn upon should our own deposits become depleted.

Hall's discovery of the aluminum process and the location of bauxite in the United States came at a time when electricity was becoming recognized as the chief source of power for performing man's work; and, indeed, the reduction of aluminum is an electrical process which employs greater quantities of electrical energy, relatively, than is used in the production of any other metal. The existence of bauxite within its areas, as well as the realization that great hydro-electric resources were located in the South, was the controlling factor in bringing the aluminum industry to that section.

Growth of Aluminum Industry

From its meager beginnings in 1888, the infant aluminum industry grew so lustily that its present and future need

for electrical energy could, by 1910, no longer be satisfied by the power developments of Niagara Falls and Massena, N. Y., upon which it had at first relied. It became necessary, therefore, to seek out reliable hydro-electric resources so located as to be within reach of the markets for aluminum. A careful survey resulted in the selection of two sites in the Southeastern section of the United States as fields in which the aluminum industry should be further developed. One of these locations was at Badin, N. C., on the Yadkin River, and the other at Maryville, Tenn., on the western slope of the Great Smoky Mountains, accessible to the Little Tennessee River and its tributaries. These selections were based not alone on the natural resources which were available but upon the intelligent legislative regulation and happy living conditions which it was anticipated would be realized and which experience has shown have been enjoyed.

The aluminum industry has accordingly located its most important fundamental operations in the South for the reasons that superior natural resources and excellent operating conditions are there available. These resources and conditions are several fold: primarily, the existence of bauxite, the ore of aluminum; next, the existence of water power of a permanence, quantity and cheapness unequalled anywhere else in the eastern part of the country; and

finally, unsurpassed climate and wise cooperation by State governments. These Southern locations were selected in the face of the fact that the principal markets for the products fabricated from the metal aluminum are to be found in the more northerly sections. The advantages, therefore, of Southern locations more than counter-balanced the cost of transporting the crude and semi-fabricated metal from the South to those points at which it is finally prepared for market consumption.

Major Southern Operations

The aluminum industry has not failed to justify the welcome which was extended to it by the South, in that its operations have been conducted there in such a manner as to constitute a contribution to the welfare and happiness of its employees and neighbors and to this section in general. The first important Southern activity connected with this industry was begun at Bauxite, Ark., at the site of the present principal mining operations. At this location there has grown up a town of model cleanliness and healthfulness; schools of the highest standards are maintained, and community houses and other similar social

(Continued on page 62)

Works and Village of Carolina Aluminum Co., Badin, N. C., a subsidiary of Aluminum Company of America



DIESEL POWER

Growing Use in Railroad
and General Mobile
Equipment Service for
Efficiency and Economy.

By
Howard L. Clark

AMONG industrial evolutions in recent years has been the rapid rise and adaptability of Diesel power in the fields of heavy transportation and mobile equipment. First, because of the ponderous design required for an efficient operating mechanism, the Diesel principle was employed in stationary engines. Later they were lightened, improved and adapted to heavy marine service. Still further refinement in design and increased efficiency brought them into use as power units for railroad trains, tractors, motor boats, trucks and automobiles, and recent successful experiments in the development of light-weight Diesel engines point to their use in airplanes.

Caterpillar Diesel Model 35

One of several Caterpillar Diesel tractors used in construction of Chevrolet Assembly Plant at Baltimore. Due to the limited time for the completion of the huge plant, the Alban Tractor Co., local Caterpillar distributor, says they were in service for 24 hours a day



In Railroad Service

Several types of Diesel power units have been tested in the new light-weight streamlined trains. The trial of Diesel locomotives marks another effort by the management of the country's large trunk line railways to cut operating costs.

The Gulf, Mobile & Northern Railroad which placed in operation last summer Diesel-Electric motor trains reported great efficiency and low cost operation of these units. The trains of three and four cars were fully described in the December MANUFACTURERS RECORD. They were designed and built by the American Car & Foundry Company; are of all-welded Cor-ten steel construction and air conditioned throughout and powered by McIntosh & Seymour Alco type 660 horsepower Diesels directly connected to Westinghouse generators. Illustrating their efficiency and economy: the average cost of a round trip of 1,000 miles is about \$305, based on the expenses per train mile of operation of 30½ cents of which 15 cents was for wages, 5.8 cents for air-conditioning, 1.7 cents for fuel and the rest of the items making up the

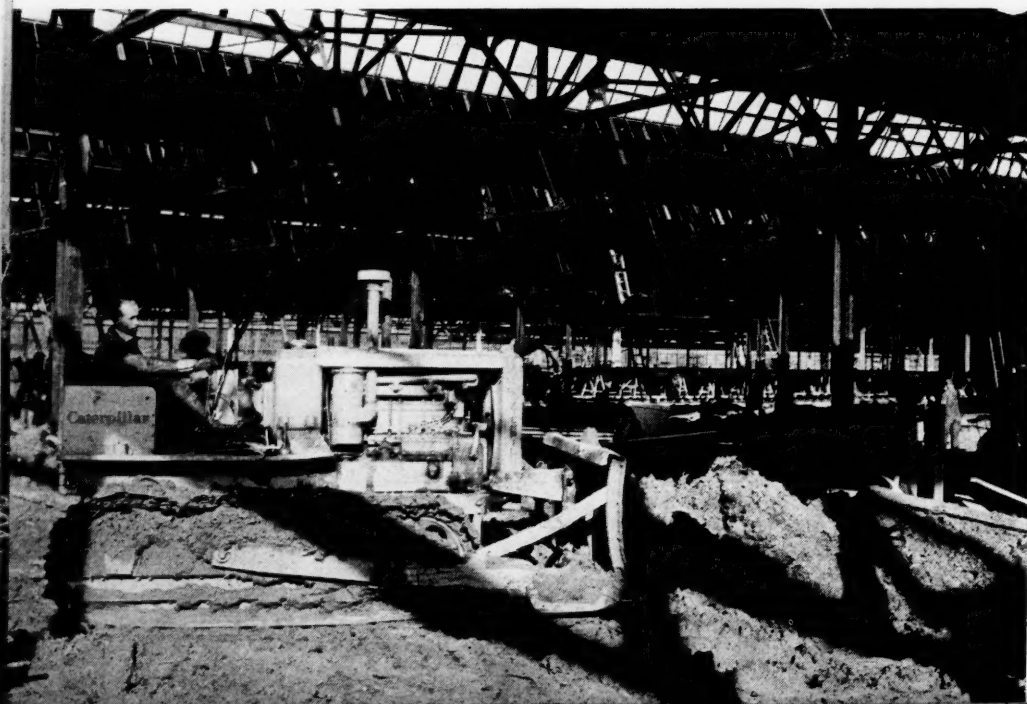
This History-Making Diesel-Electric Train of the Gulf, Mobile and Northern Railroad Operates at Fuel Cost of Less Than 2 Cents a Mile

total operating cost were for maintenance and services including laundry and supplies for sleeping cars.

The Santa Fe Railroad has been testing the largest Diesel driven railroad engine. A product of the Electro-Motive Corporation of Cleveland, a General Motors subsidiary, it is rated at 3,600 horsepower, weighs 240 tons, and has an overall length of 127 feet. It is a multiple unit of two identical sections which can be operated singly or together; or coupled with any desired number of similar units, all of which can be controlled by one operator. Each unit is powered with two Winton V-type, 12 cylinder, high compression, two-cycle oil engines. The General Electric Company supplied the electrical equipment. A steam generating unit for heating and air-conditioning the cars of the train is an interesting feature.

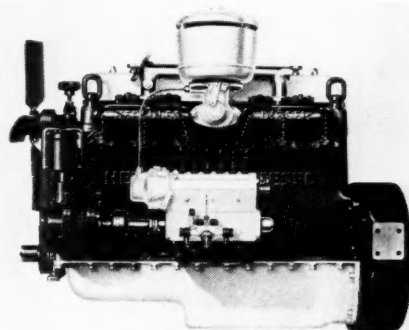
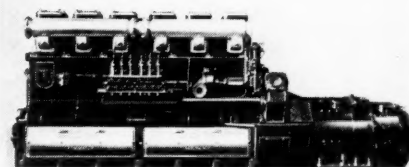
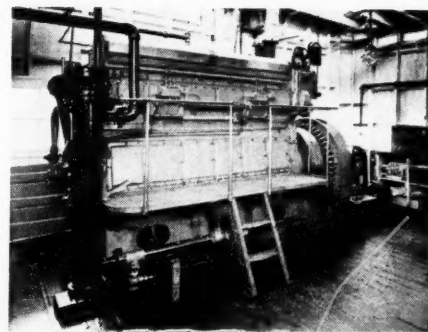
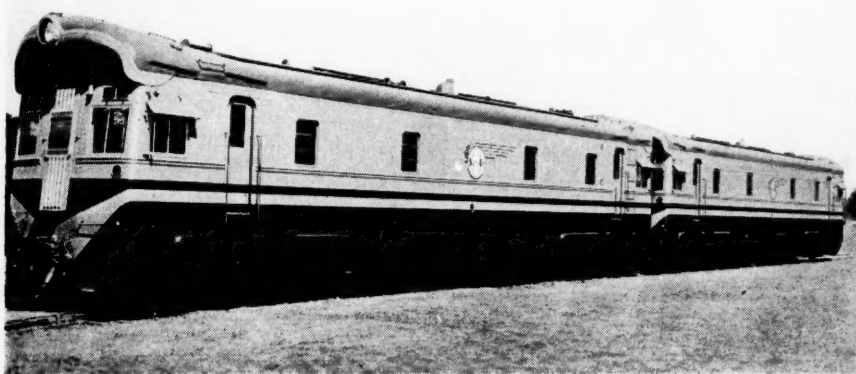
The maximum speed of the Santa Fe engine is 98 miles an hour. Before being delivered, the twin unit Diesel made a run of 1,114 miles from Jersey City to St. Louis on the Baltimore & Ohio, continuing two hours later with a regular Alton train to Chicago for a distance of 284 miles. On the run from Jersey City to St. Louis, the engine pulled ten standard steel cars weighing 757 tons. Between St. Louis and Chicago 12 cars were hauled—808 tons.

The Baltimore & Ohio Railroad is experimenting with an 1,800 horsepower Diesel locomotive, also the product of the Electro-Motive Corporation, using it to pull a streamlined train which runs from Jersey City to Washington in four hours. This engine drives an electric generator which in turn supplies power to four 450 motors each of which drives an axle on the engine car.



Top—The 3600 horsepower Diesel locomotive unit of the Atchison, Topeka & Santa Fe Railroad is the most powerful of its kind

Bottom—Allis-Chalmers Model "KO" Diesel fuel burning tractor pulling Continental scraper on construction job near Atlanta, Ga.



Diesel Power Tractors

Diesel units for tractor service have long passed the experimental stage. Some manufacturers are making a specialty of this type of equipment. The Caterpillar Tractor Company recently produced its 10,000th Diesel. J. C. Alban of the Alban Tractor Co., Baltimore District distributors, referring to the celebration held at the Peoria, Ill., plant to mark the 10,000 Diesel production milestone, says that in a little more than four years, the Caterpillar Tractor Co., first American manufacturer of a Diesel tractor, has produced more than 640,450 Diesel horsepower and the company has produced approximately as many Diesel engines during the past 12 months as it did during the first three years of Diesel manufacture. Sales in 1935 have increased 48 per cent over 1934 and the Caterpillar Diesel engines are serving in 72 countries and working in fleets on most of the world's major projects. The Company has just announced a new line of Diesel tractors comprising RD8, RD7, RD6 and RD4, ranging from 95 to 35 drawbar horsepower, affording a broader line in the field of tractor usefulness from the heaviest earth-moving jobs down to the plowing of a small field.

Economy of Operation

Diesel power tractor efficiency and low cost operation have been proven in the usual tractor service and in special work. A Caterpillar Diesel 40 can pull the largest type of 22-inch double disc harrow 11 feet wide and a culti-packer, in tandem. In this and in other types of work Caterpillar Diesel tractors have cut operating costs from one-third to one-half. Expanding the range of power in its stationary Diesel engine line, the Caterpillar Tractor Co. announces three

Top—Locomotive type Diesel engine rated 325 horsepower installed for Kanawha Sand Company, Parkersburg, W. Va., by the Cooper-Bessemer Corp., Mt. Vernon, Ohio

Center—660 horsepower McIntosh & Seymour Diesel Unit installed in GM & N trains which operate at a fuel cost of 1.7 cents a mile

Bottom—Hercules Diesel Engine Series DJX

new true Diesel engine models, the largest of V-type, 8-cylinder design.

On a large heavily wooded land development of the Ruder-Haley Company at Terra Ceia Island near Bradenton, (Continued on page 62)

McCormick-Deering Diesel Tractor doing a tough land development job in Florida



THE SUCCESS OF "THE AMERICAN SYSTEM"

By
Carroll E. Williams*

TO say our American system has failed is to admit stupid ignorance of history. Under no other system in the world's history can any progress comparable to that of the United States be found. There has never been an industrial system that has accomplished so much. No other system has brought such luxuries and conveniences to the masses.

Talk about social welfare! No other country is contributing one half so much to public service and general welfare as our own, for the simple reason they haven't got it to give. No other country can waste it like they're doing in Washington.

Machines and Men on Payrolls Gain Together

On every hand we hear charges we are producing too much, coupled with

FACTS to the contrary notwithstanding, agitators are intent on forcing upon popular credulity by systematic repetition assertions that the rich 2 per cent of the people own most of the wealth of the Nation.

Taking issue with this, Dr. Gus W. Dyer, Vanderbilt University economist, in the accompanying article shows that the masses of the people are really "the captains of the country and sharing the wealth is an accomplished fact under our system."

He challenges the attempt to disparage the remarkable progress made under the American industrial system, and presented the facts herewith summarized in the course of a recent address at the American Institute of Banking in Baltimore and in radio addresses, "Regimenting The Farmers" and "The Farm Racket."

the remedial suggestion that the only way to get rich is by having less.

In 1829, when there were no machines to speak of, one man out of every 23 was employed in manufacturing. In 1889 one man out of each 16 was engaged in factory work; while in 1929 one man out of every 13 was employed in factories.

Instead of the machine displacing man, actually it has resulted in putting workers on factory payrolls; for in proportion to our population, twice as many men were working in factories in 1929 as were employed 100 years previous.

As machine use has increased, so

wages of factory workers have grown too. In 1829 the average annual pay of factory workers, laboring 15 hours daily, was \$249; while in 1929 factory employees, working eight hours daily, earned an average of \$1300 a year. Thus, it is readily seen that under our industrial system the modern factory worker gets seven to eight times as much as in the "good old" days before machines were commonplace.

"Spending Way Out" Prolonged Depression

As a result of the prolonged depression, out of which we would have worked long ago had we followed common-sense principles of work, economy and restoration, instead of endeavoring to spend our way out, the system under which we have progressed to world leadership is "under fire."

There are those who would persuade us everything is wrong. All sorts of changes in our laws and institutions are suggested.

Depressions Characterized as Cures Not Curses

Depressions are sent to cure, not to curse. They are brought on by natural laws. Yet we hear on every hand demands to change our Federal laws to the end that everything may be remedied.

Depressions are a habit among progressive peoples. Over a period of 100 years depressions in this country have occurred at intervals of about ten years.

It must be remembered, however, that no industrial progress is ever achieved without taking chances. What happens is that we become too optimistic, too certain the thing that happened before

*Being facts assembled from addresses by Dr. Gus W. Dyer, Economist of Vanderbilt University, Nashville, Tenn.

Men and Machines—Some Fallacies Disproved

THE idea that unemployment is the problem of industry and can be solved by industry is silly and stupid in the extreme.

The state of ignorance with reference to industry and employment is fearful.

Wild statements are made by social reformers, sentimentalists, politicians, and other ignorant people, to the effect that unemployment is the result of modern industry, and the public accepts them as true. One wild statement is that unemployment is due to machinery—that machines are taking the places of men, and as a result more and more men are added year by year to the ever-increasing roll of the unemployed.

But when we turn to the record, we find no proof whatsoever to justify such statements. On the contrary, just the reverse is true. There were 17 per cent more employed in industries in proportion to population in 1929 than there were in 1899. The average wage of employees in industry was \$246 in 1849, \$445 in 1889, \$519 in 1909 and \$1191 in 1925.

In 1930 there were 48,829,820 people gainfully employed in various activities in this country. In 1929, employment in all sorts of factories reached the highest peak in our history. The total number then employed in all industries was 8,838,743. Only about one gainful worker out of six is employed in industry.

If we could bring industry back to its highest peak, it could not absorb but 2,000,000 of the 11,000,000 unemployed. Even when the demand grows for more employees in factories, it is questionable whether many would be taken from those 11,000,000.

cannot happen again. We reach a point where we don't know when to stop. We fail to distinguish between the real and the unreal.

And in this attitude, all groups are alike. We all had a hand in causing this last depression—Wall Street to Main Street.

I'd hate to live in a country that never had a depression. You've got to climb to have a fall. Who ever heard of a depression in China, Ethiopia or Siberia?

Farmers' Plight Not As Bad As Painted

Farmers perhaps had more to do with bringing on the latest debacle than any other class. Consider, in 1910 the farm indebtedness of the nation was \$1,700,000,000. During the time Secretary Wallace takes as the best period in American farming history, the farming indebtedness increased to \$4,000,000,000.

Adequate Banking Facilities Essential To Industrial Growth

The ideas of some so-called intelligent people on banking are not only unfortunate but laughable.

To the establishment of adequate banking facilities may be attributed in large measure the remarkable industrial progress achieved by this nation. No other group of men in our whole field of endeavor gives so much to the public service as bankers.

When we hear of the proposals for the Government to take over banking, let us consider where we would be if it were not for the service banks are giving to the public. The Government can do it cheaper than the banks only when they can charge their losses to the taxpayers.

Statements made by wild fellows that the wealth of the country reposes in the hands of a few, are incorrect. Many persons look upon all bankers as wealthy. As a matter of fact bankers are simply trustees for the poor man's money.

Masses of People Actually "Captains of Industry"

Through the really marvelous system of banking, the masses of the poor are really the captains of the country—"sharing the wealth" is an accomplished fact under our system. One hears criticisms leveled at the "reckless period of spending" in the lush years, 1914 to 1930. It is significant that the only caution signs to go up—to save, to be thrifty, to prepare for tomorrow—were raised by the savings banks.

The banks through those years continually called attention to fundamentals. The theorists said that nothing could stop our prosperity, forgetting the lessons they should have learned from a 100-year history.

Employment Figures

The sentimental appeal from Washington to industry to put the unemployed back to work would be laughable, were it not for the fact that it is taken seriously by people supposed to have ordinary sense.

To see that factory employment is only a fraction of employment in this country, note some of the other fields of employment and the numbers engaged therein:

Agriculture	10,400,000
Transportation	3,800,000
Trade	6,081,000
Professions	3,253,000
Domestic and personal service	4,952,000
Clerical occupations (not clerks in stores)	4,025,000
Industry	8,838,000
Building trades	5,271,000

Continuous Civilization Dependent On Individual Freedom

Civilization is dependent on the moral quality of the citizens of a nation, that will lead them to sacrifice in the present

for something better they hope to have in the future. When you cease to cultivate that habit you have destroyed the basis of civilization as we know it. This is laying the foundation for all that is great and worthwhile in creating a continuous civilization.

The men who laid the foundations for individual freedom made no mistake, in perfecting a system superior to any yet devised. With all of its defects there is nothing in all the world that can compare with it.

Wealth Marvelously Distributed In This Nation

Let us face facts. At the beginning of the depression there were:

50,000,000 savings bank deposits;
\$28,000,000,000 total annual deposits;
115,000,000 insurance policies in force;
\$98,000,000,000 face value of life insurance policies;
\$20,000,000,000 of real assets of insurance companies;
12,000,000 members of building and loan associations;
\$10,000,000,000 of resources in the building and loan institutions;
26,000,000 stockholders of major corporations of the nation.

Under our system, wealth was marvelously distributed, and the millions of dollars represented the savings and investments of the masses to supply the funds to run the business of the nation.

Pertinent Facts on "The Farm Racket"

THE total mortgage indebtedness of all farms in the Southern states operated by full owners is only 19.5 per cent of the value of those farms.

There were 1,112,834 farms in the Southern states in 1930 that were operated by full owners. Of this number only 328,000 were mortgaged.

More than 60 per cent of the farms of the Nation operated by owners are free of mortgages.

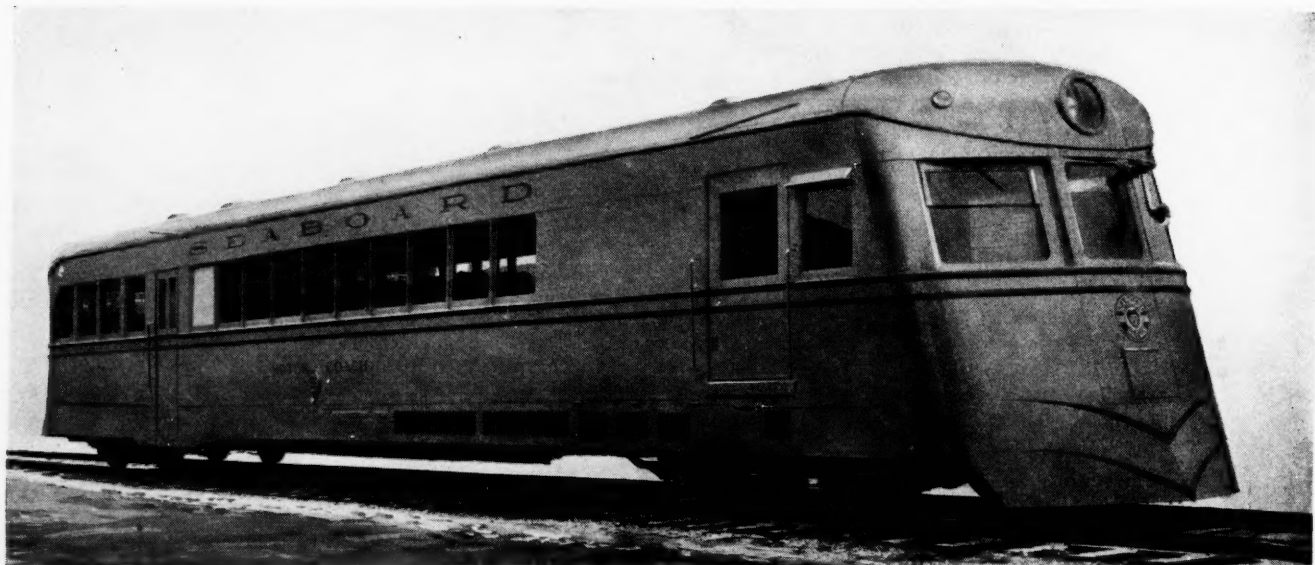
The state that really has a serious farm mortgage problem is Iowa, the home of the Secretary of Agriculture. The farm mortgage indebtedness of Iowa is greater than that of all the Southern states combined, Texas, excluded.

The farm restriction policy is in the interest of the landowners, the majority of whom own their farms free of mortgage, and is antagonistic to the interest of the poor farmers and the farm hands. The non-landowning workers on the farm greatly outnumber those who own land.

In the United States, the total number of farms operated by full owners is 3,568,394. The total number of tenants is 2,604,000 and the total number of farm hands is 2,732,972. The tenants and farm hands combined make a total of 5,397,337, which places them in a majority of 1,728,943 over the landowners.

A restrictive farm policy is the chief cause of unemployment. It is rather remarkable that so little has been said about this. It has gone almost unobserved.

TRAVELING SOUTH— By Rail and Highway



Motor Rail Coaches For S. A. L.

THE railroad transportation picture is rapidly changing. The results of extensive electrification, the growing use of Diesel-electric locomotives and gasoline-engine powered coaches on rail systems in the South and Southwest are being carefully observed.

Cutting operating costs, speeding up schedules and providing attractive, comfortable accommodations for passengers are primary objectives.

Indicative of the shifting scene in railroad transportation is the operation of motor rail coaches by the Seaboard Air Line Railway. Capable of a speed of 90 miles an hour, three men are required to operate each unit, consisting of but one car, which accommodates 38 white and 19 negro passengers, and a spacious baggage compartment.

WITH the inauguration of streamlined, air conditioned motor rail coach service between Jacksonville, Tallahassee, and River Junction, Florida, in a new fast local passenger service, the Seaboard Air Line Railway has three motor rail coaches in service.

The other cars operate between Richmond and Raleigh, and between Jacksonville and Tampa, displacing expensive steam-operated local service.

These cars, designed and built by the American Car & Foundry Co., New York, are self-propelled, single car assemblies. The basic structural materials are steel with aluminum sheathing, with the construction in full streamlined design. Streamlining was adopted not only to add to the beauty of the rolling stock, but because of its direct relation to speed, fuel economy and the lessening of wind resistance to motion.

The power plant of each of the motor rail coaches is a 6-cylinder, overhead cam and valve, gasoline engine, with a total piston displacement in excess of 700 cubic inches. The engine develops 168 horsepower at 2200 revolutions per minute. A Hall-Scott Model 180, it drives through a Brown-Lipe transmission. Westinghouse semi-automatic type air brakes are used.

Smooth riding, freedom from vibration and quietness are outstanding fea-

Gas Engine Takes to Rails

A 168-h.p. 6-cylinder engine drives this coach at speed of 90 miles per hour

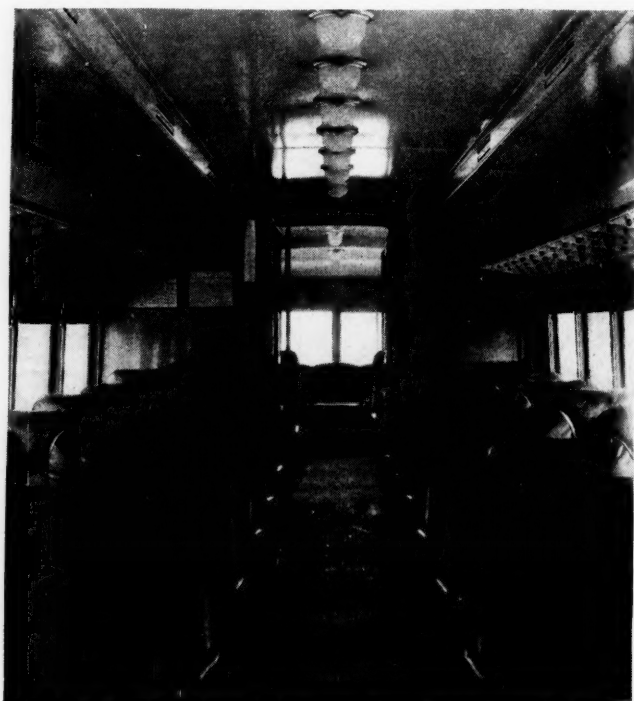
tures of the new units, the result of the use of Timken roller bearings and special rubber-insulated springs. The latter is augmented by an application of aluminum-foil and hair-felt on the inside of the aluminum sheathing.

The coaches measure 64 feet in length, 9 feet in width, and 10 feet 5 inches in height. The forward compartment, occupying about one-third of the total space available, includes a cab for the

(Continued on page 60)

Passenger Compartment

The interior has been designed with particular regard to comfort and pleasing appearance. To increase the efficiency of the air-conditioning and heating systems, all of the windows are stationary



MANUFACTURERS RECORD FOR

SAVANNAH HITS INDUSTRIAL STRIDE

By

Thomas Gamble

Mayor, City of Savannah, Ga.

SAVANNAH reviews 1935 with satisfaction. Noting the achievements of the past year in commerce, industry, domestic trade and regional development, it looks forward this year to even greater accomplishments.

Early in 1935 the city's leading business interests united with the municipal government, the Chamber of Commerce and other organizations to overcome the depression by a policy of construction. Progressive plans were outlined especially in manufactures, that would be Savannah's contribution toward national prosperity.

The results exceeded the most conservative expectations.

In commerce the record for 1935 was, in some respects, a record breaking one. More steamships entered the port of Savannah last year than in any previous year in its history and their tonnage was greater than in any previous year.

For 1935, 1162 American and 245 foreign ships, a total of 1407, used the facilities of the port of Savannah as against a total of 1261 in 1934, 1220 in 1933, 1081 in 1932, and 1063 in 1931, with a total tonnage for 1935 of 4,079,528. In 1934, net tonnage was 3,604,122; 1933, 3,464,954; 1932, 3,079,596; and 1931, 3,093,801 tons.

The estimated value of Savannah's commerce for 1935 is \$170,000,000 against \$154,000,000 in 1934; \$151,000,000 in 1933, \$135,000,000 in 1932.

Foreign exports for the year 1935, when the official statement is issued, promise to show an increase of between 15 and 20 per cent over 1934.

The year will show a gain of over 100 per cent in the value of foreign imports, compared with 1934.

Especial efforts were put forth to co-operate with merchants in the development of domestic trade, wholesale and retail, and with the leaders of agriculture in the encouragement of all plans for diversification of products and for improvement and expansion in stock raising. Two live stock auction markets were established in Savannah providing opportunity for regular sales of cattle, hogs, etc. The East Georgia Planning Council has been organized in connection with the National Resources Board, to make a comprehensive survey of 16 counties in this section of the state, having in mind the utilization to a greater extent of farm products in industry.

Industrial advancement, though, has claimed major attention. Savannah has been selected as the location for the first large pulp, paper, and bag plant on the South Atlantic Coast, to be built by the Union Bag & Paper Corp. The municipal government provided land, buildings, wharfage and rail facilities valued at \$350,000.

As this \$4,000,000 plant approaches completion, prospects are bright for the establishment here of another large plant to manufacture newsprint paper.

Hutchinson Island Terminals, Savannah

In 1935 more vessels entered the Savannah harbor than in any year in its history.

This is the result of practical commercial demonstrations by the Savannah Pulp and Paper Laboratory conducted by Dr. Charles H. Herty over a period of years.

Attention of paper manufactures of all classes is now focused on Savannah. A great, new industrial market has been opened for the raw products drawn from the pine belt of the Savannah territory.

Some representative industrial developments of 1935 are described in brief herewith.

Pulp and Paper Laboratory

The Industrial Committee of Savannah, Inc., under the direction of Dr. Charles H. Herty, successfully demonstrated that a commercial grade of newsprint can be manufactured from young Southern pine trees.

The laboratory processes are continually under the eyes of trained chemists and paper specialists, who improve the products technically and translate their manufacture into terms of economic utility.

Rayon yarn from pine pulp was the second laboratory development in 1935.

Union Bag and Paper Corporation

Plant in construction will represent investment of approximately \$4,000,000.

Plant will provide employment for 800, with additional outside employment of 500.

Estimated payroll: \$1,000,000 yearly.

Purchases of pine wood for conversion into pulp: approximately \$300,000 per annum, initially.

Savannah Sugar Refining Corp.

New silos were erected in 1935, with other plant expansion and expenditures for physical maintenance, totaling approximately \$175,000.

This plant, which has a capacity of two and one-half million pounds daily,

(Continued on page 66)



SOUTHERN CONSTRUCTION SETS ALL-TIME HIGH IN JANUARY

Proposed Work

BUILDING, engineering and general construction awards, which exceeded the 100-million dollar mark, brought January well above any previous similar month in the South's building history.

The January figure assumes greater significance when it is considered that awards were only slightly less than the combined totals in the first three months of 1935. The record was set following the most active fall and early winter construction the South has yet experienced.

Private Building Gains

Contracts totaling \$1,434,000 were awarded in the sphere of home-building, leading the field of general building and indicating renewed optimism on the part of the general public.

Other private operations, which included contracts awarded for the construction of stores, churches, apartments and hotels were just under the \$2,000,000 mark.

Industrial Awards Heavy

Industrial awards last month aggregated \$45,609,000 compared with \$35,-

937,000 in December. Capital, both Southern and outside, is being invested heavily in new and expanding industries. The wheels of oil refineries, paper pulp mills, publishing houses and rayon plants turn with renewed vigor. Foundries, canning and packing plants, wood-working establishments, textile mills, bakeries and laundries are being expanded.

Public Building Declines

It is noteworthy that these high figures have been rolled up in the face of declines in public building awards and in road-building.

Last month, contracts let for city, county, government and state buildings, together with schools and colleges, aggregated \$26,831,000, as against \$33,186,000 in December. Road, paving and bridge awards also declined last month, bringing the total decrease for these two major fields of publicly-financed operations to a sum of \$14,000,000, compared with the December expenditures.

With work getting under way as new contracts are let; with work proceeding on scores of projects placed under contract in the last few months of 1935, and with architects and engineers busier than they have been in a long period, it is apparent that building and construction work in the first half of 1936 is assured in volume perhaps equalled but certainly never before surpassed.

Ala., Birmingham—Col. A. C. Polk, appointed executive engineer in charge of city's proposed \$5,800,000 industrial water supply system; surveys started; engineering at impounding dam site near Inland in Blount county, on distribution reservoir near Mt. Pinson, and on pipe lines of distribution system in East Birmingham.

Ala., Birmingham—Tennessee Coal, Iron & Railroad Co., will expend \$208,000 on addition to sheet mill at Fairfield; contracts, reported, let.

Ala., Montgomery—Capitol Heights Baptist Church, Dr. Robt. C. Edge, Pastor, has floor plans for new building to be erected; work to start in May; Carl Cooper, Archt.

Ala., Sheffield—Alabama State Highway Comsn., Montgomery, has submitted plans to the PWA for \$1,400,000 Tusculumbia-Sheffield bridge over Tennessee River; Gaston Scott, Pres.

Ala., Stapleton—Baldwin County Power Co. applied to Alabama Public Service Comsn., Montgomery, for permission to construct 53 mile rural transmission line, starting 15 miles east of Spanish Fort along Highway 31 to Stapleton.

Ark., Arkadelphia—Blue Valley Creamery Co., Alexander Hamilton, 1137 W. Jackson Blvd., Chicago, Ill., leased DeLamar building, Seventh and Clay Sts., establish creamery.

Ark., Camden—Chamber of Commerce Industrial Committee, negotiating with company for establishment of hosiery mill; city to erect \$16,000 building.

Ark., Crossett—Crossett Lumber Co., Crossett, Ark., subsidiary of Crossett Watzek Gates, Railway Exchange, Chicago, Ill., will complete engineering plans in 30 to 60 days for kraft paper mill.

D. C., Washington—Capital Transit Co., plans expending \$2,727,000 for improvements to rail and bus service, in 1936; program includes 35 additional buses, cost \$259,600; establishment of bus garage, \$350,000; track changes for re-routing, \$967,000; to complete the 1935 track renewal program, \$188,000; to carry out the 1936 track renewal program, \$600,000; street car improvements, \$317,000; other work, \$400,000.

D. C., Washington—C. Charles Shapiro, 1508 K St., N. W., applied for permit for five 3-story brick apartments, 5906 and 5912 13th St., 1301 to 1309 and 1315 Concord Ave., N. W.; cost \$125,000; George T. Santmyers, Archt., 1410 H St., N. W.

D. C., Washington—Hecht Co., will erect warehouse and delivery building, corner of New York Ave. and Fenwick; 6-story and basement; 350x350 ft.; fire proof; Abbot, Markt & Co., Archt., and Engrs., 22 E. 40th St., New York.

Fla., Lakeland—Southern College, Dr. Ludd M. Spivey, Pres., probably start work in March on \$150,000 building program involving classrooms and women's dormitory facilities.

(Continued on page 32)

SOUTHERN CONSTRUCTION ACTIVITY January, 1936

	Contracts Awarded	Contracts to be Awarded
General Building		
Apartment and Hotels	\$ 776,000	\$1,245,000
Association and Fraternal	56,000	280,000
Bank and Office	218,000	405,000
Churches	106,000	560,000
Dwellings	1,434,000	1,284,000
Stores	1,127,000	2,244,000
	\$3,717,000	\$6,018,000
Public Buildings		
City, County, Government and State	\$13,557,000	\$43,359,000
Schools	13,274,000	14,350,000
	\$26,831,000	\$57,709,000
Roads, Streets and Paving	\$20,064,000	\$33,452,000
Industrial and Engineering Projects		
Drainage, Dredging and Irrigation	\$ 1,499,000	\$ 28,925,000
Filling Stations, Garages, Etc.	309,000	177,000
Industrial Plants	45,609,000	27,261,000
Levees, Revetments, Seawalls, Dikes, Etc.	2,227,000	350,000
Sewers, Drainage and Waterworks.....	4,010,000	22,784,000
	\$ 53,654,000	\$ 79,497,000
TOTAL	\$104,266,000	\$176,676,000



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OUT HIDDEN
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BEFORE THEY
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You can't be sure that the roof which protects your valuable equipment and merchandise is in good condition without an occasional inspection. Don't take a chance!

The Barrett Company many years ago initiated a unique roof inspection service which it offers free to owners of flat-roofed buildings located east of the Rockies.

A thoroughly trained Barrett inspector will, on request, make a complete survey of the roofs of your buildings, and render to you a detailed report. His findings are entirely impartial and are based on Barrett's long roofing experience. They may disclose your roof to be in first class condition; but, if there are defects, their discovery and prompt remedy may save your company both property damage and the cost of more extensive repairs.

If this service interests you, dictate a brief note to us or see your local Barrett Approved Roofer, who will gladly arrange a roof inspection for you without cost or obligation.

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FEBRUARY NINETEEN THIRTY-SIX



THE TECHNICAL SERVICE BUREAU
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obligation. Address The Technical Service Bureau,
The Barrett Company, 40 Rector Street, New York.

Important Sale of Steel Plant

Tennessee Coal, Iron & Railroad Co. Purchases Properties of Virginia Bridge and Iron Co.

THE U. S. Steel Corporation, through its subsidiary the Tennessee Coal, Iron & Railroad Co., of Birmingham, has taken over the properties of the Virginia Bridge & Iron Co., of Roanoke, Va. The latter company is the largest fabricator of structural steel in the South, and one of the largest in the United States. It has had a career of almost uninterrupted growth and under the able management of C. Edwin Michael, a leader in business and public affairs of Virginia and the South, it has erected many of the outstanding bridges and modern buildings of the Southern states in the last 40 years.

At the stockholders meeting on January 23, the sale of the company's plant, real estate and other property to the Tennessee Coal, Iron & Railroad Co. was ratified and approval given to the action of the Board of Directors entering into the contract of sale.

The company has plants at Roanoke, Birmingham and Memphis. The Memphis plant was built in 1908, and in 1922 a fabricating plant was established at Birmingham. They have been operated ever since, handling a large volume of work in all parts of the Southern territory and the Western states, as well as for export.

The new company, which is to be a wholly owned subsidiary of the Tennessee Coal, Iron & Railroad Co., will be known as the Virginia Bridge Co.

The personnel will likely be those who have heretofore operated the Virginia Bridge & Iron Co., but definite information is not yet available.

Reports are current in Birmingham that consideration is being given by the Tennessee Coal, Iron & Railroad Co. to such developments as may be necessary to care for further increased uses of steel. The added facilities represented in this purchase by the U. S. Steel Corporation will provide a wider market for the products of the Tennessee Coal, Iron & Railroad Co.

The Virginia Bridge and Iron Co. has built many notable steel highway and railroad bridges of all sizes and types, including the James River Bridge at Newport News, Va., the Cochrane Bridge at Mobile, Ala., both outstanding bridges of the vertical-lift type. It has built railroad bridges for all of the important railroads in the South and West, as well as railroad turntables, coal piers, coal tipples, shop buildings, etc.

The company has furnished and

erected the steelwork for many of the largest office and commercial buildings including the Reynolds Building at Winston-Salem, N. C., and the Magnolia Building at Dallas, Texas, besides many of the largest industrial plants, among which are the Atmospheric Nitrogen plant at Hopewell, Va., the American Enka plant at Asheville, N. C., and the Mathieson Alkali Works at Lake Charles, La.

Its work includes important steam and hydro-electric plants, as well as steel gates and locks for flood control and dam works, the most recent and outstanding of which have been for the Madden Dam, Panama Canal Zone; Lake Okeechobee, Fla., and TVA. In recent years the company has developed and built a number of steel stadiums for Southern and Southwestern schools and cities, one of the most recent being at Columbia, S. C., seating 17,500.

The Virginia Bridge & Iron Co.'s policy has been to provide the most complete service available in steel construction, from the smallest store-front girder to the largest building or bridge.

The Virginia Bridge & Iron Co. has paid dividends regularly over a long period of years.

J. L. Perry, president, officially announced at Birmingham, "the Tennessee Coal, Iron & Railroad Co. has contracted to purchase the fabricating plants of the Virginia Bridge & Iron Co. located at Birmingham, Roanoke and Memphis. This acquisition enables the Tennessee Coal, Iron & Railroad Co., located and operating in the Southern territory, to maintain its position in the market for fabricated steel. Title to the properties will be placed with the Virginia Bridge Co., a wholly owned subsidiary of the Tennessee Coal, Iron & Railroad Co. The operations of acquired properties will be conducted by the Virginia Bridge Co."

Road-Striping Device

Jackson, Miss.—A machine to put a "traffic stripe" in the middle of paved highways is the invention of Sam J. Dalton, maintenance engineer for the State Highway Department. He has not yet contracted for manufacture or sale of the device. Not only has "striping" proved effective in separating various lanes of traffic but it is a boon to safe driving in blinding rains, snows and fog, hence the importance of keeping the stripes clean and visible.

Salt Treated Lumber Dried To Proper Moisture Content

Designed to fill a growing demand for properly dried salt treated lumber for use in residential and farm building construction and repair work, The Wood Preserving Corporation, of Pittsburgh, Pa., has recently installed facilities at its timber treating plants at Charleston, S. C. and Houston, Texas. These facilities permit salt treated lumber to be conditioned to the proper moisture content to meet the particular use for which it is intended.

This latest service is meeting with a response from mills for the treatment and distribution of their lumber, as well as from retail lumber yards, and large and small industries. Moreover, it is anticipated that the demand for properly preserved lumber will be accelerated because of the increasing necessity to protect all classes of building from the effects of natural decay and from attack by termites.

In the past salt treated lumber was often shipped to its destination with no drying after treatment, it is pointed out. This practice involves possible shrinkage and may cause delay, where paint is to be applied, in completing construction operations.

Salt treated lumber dried to a 12% to 15% moisture content is suitable for exterior use, but where lumber is to be used in the interior it must be dried to a lower moisture content, says The Wood Preserving Corporation.

With the completion of installations at Charleston and Houston, the Corporation now carries assorted stocks of salt treated lumber for home and farm building construction such as sub-flooring, siding, roofing and a complete stock of creosoted wood for foundation timbers and under-pinning. Untreated lumber for general purposes is also stocked.

Shipments are made to consuming centers either in mixed carloads of treated and untreated lumber, or in solid carloads of treated lumber.

Salt treated lumber, in addition to protecting, also acts as a fire retardant, is described as absolutely odorless, does not discolor the wood, and permits staining or painting the same as untreated wood.

To assist lumber manufacturers and retail lumber dealers in the proper use of treated wood for general building purposes, Reading Putman, formerly with the Century Division of The Wood Preserving Corporation, at Boston, Mass., and recently transferred to the Southwestern territory of its affiliated Company, the National Lumber and Creosoting Company, is now located at Austin, Texas, with division headquarters at Texarkana, Ark.-Tex. He will devote his entire time to promotional work.

Among the 21 timber treating plants operated by The Wood Preserving Corporation, the following Southern units are equipped to give clean salt treatment for all kinds of lumber for industrial, residential and farm building construction: Charleston, S. C.; Hagerstown, Md.; Houston, Texas; Montgomery, Ala.; Texarkana, Tex.



Now in effect

SPECIAL SUNDAY RATES

for Long Distance telephone calls

AND

REDUCED PERSON-TO-PERSON RATES

after **7** every evening



The Bell System now extends to all day Sunday the same reduced rates which have been in effect on long distance station-to-station calls after 7 p.m. each evening. The reductions apply to most calls on which the day rate for three minutes is more than 35 cents, and range from about 10 per cent on some of the shorter calls to 40 per cent or more on distant calls.

The Bell System also now offers reduced rates on person-to-person calls every night after 7 p.m. and all day Sunday. They apply, in general, on long distance calls on which the day station-to-station rate is more than 35 cents. The discount on most person-to-person calls is the same in money as on station-to-station calls between the same places.

In both social and business affairs, these new Sunday and night rates offer you a broader service at a lower cost. They widen your telephone's usefulness.

BELL TELEPHONE SYSTEM

FEBRUARY NINETEEN THIRTY-SIX

TYPICAL THREE-MINUTE RATES

FROM	Station-to-Station			Person-to-Person		
	Day Rate	Sunday and Night Rate	Reduction	Day Rate	Sunday and Night Rate	Reduction
New York to Philadelphia	\$.50	\$.35	\$.15	\$.75	\$.60	\$.15
Pittsburgh to Cleveland	.70	.40	.30	1.00	.70	.30
Chicago to Cincinnati	1.20	.70	.50	1.60	1.10	.50
St. Louis to Chicago	1.25	.75	.50	1.65	1.15	.50
Detroit to Boston	2.55	1.40	1.15	3.25	2.10	1.15
Washington, D.C., to Kansas City	3.50	1.90	1.60	4.50	2.90	1.60
Miami to Boston	4.50	2.50	2.00	5.75	3.75	2.00
Denver to New York	6.00	3.50	2.50	7.50	5.00	2.50
Washington, D.C., to San Francisco	8.50	5.00	3.50	10.75	7.25	3.50

NEWS FOR SALES

Every announcement of a new industrial enterprise, large or small, is welcome news. Every new plant and plant expansion mean **SALES** of a wide variety of products—from construction materials and production machinery to office supplies, raw materials and power and light.

Industrial plant awards in the South as published in the **DAILY CONSTRUCTION BULLETIN** in 1935 showed an increase of 71% over 1934 and involved \$136,000,000. The volume of work proposed for early starting indicates further improvement throughout this year.

The advance news reported in the **DAILY CONSTRUCTION BULLETIN** will enable you to concentrate sales and promotional effort in the South to better advantage.

Why not have this important news service sent to your home office, your traveling representatives and branch offices? The cost is only 4c a day and there are special rates on bulk orders.

**MANUFACTURERS RECORD
DAILY CONSTRUCTION BULLETIN**
BALTIMORE MARYLAND

Published daily except Saturdays, Sundays and Holidays

Service of 250 days a year for \$10.00.

Proposed Work

(Continued from page 28)

Florida—Rural Electrification Administration approved contract for \$164,000 loan to Florida Power Corp., St. Petersburg, for constructing 184 miles of rural distribution lines in 21 localities in Northern and Western Florida; lines will be from or near St. Petersburg, to Tallahassee region, in Alachua, Citrus, Columbia, Gadsden, Hernando, Liberty, Marion, Pasco, Pinellas, Suwannee, and Wakulla counties.

Fla., Miami—WPA approved allotment of \$150,000 for control tower, grandstand seats, airport improvements, etc. at Municipal Airport, Dade County; city to furnish \$43,983.

Ga., Atlanta—Public Service Comsn., Atlanta, approved application of Georgia Power & Light Co., to borrow \$109,200, from Rural Electrification Administration, for extension of rural lines from Waycross to Hoboken, Nahunta and other communities in Brantley county.

Ga., Atlanta—Seydell-Woolley Co., 748 Rice St., N. W., has plans by Olivier J. Vinour, Archt., 1283 N. Morningside Dr., N. E., for addition to present chemical plant; 1-story and part basement; conc. found.; brick walls; steel sash; tar and gravel roof; wiring, heating, etc.

Ky., Lexington—Kentucky Independent Packing Co., Inc., J. G. Rogers, V. P., soon let contract for reconditioning, renovating and equipping old Munns Bros. packing plant on Old Frankfort Pike; plant to be in operation in 90 days; expend \$90,000; capacity of plant 15,000 lambs weekly.

Ky., Lexington—Warner Sayers, Inc., capital \$100,000; Warner Sayers, 216 Market St.; construct warehouse and bulk plant on south Broadway near Bolivar; distribute petroleum and asphalt road building products; temporary address Room 202, City Bank Bldg.

Ky., Louisville—City hospital opens bids Feb. 7 for \$365,620 clinic building; Ky-1190-R.

La., Rodessa—Panama Refining Co., of Overton, Tex., will move East Texas refining unit to the Rodessa field, capacity 7000 bbls. oil daily; leased 21 acres near McCoy Station north of Rodessa; Martin Flood, Ch. Engr.; A. F. Anding, Pres.

Md., Baltimore—Belvedere Hotel, Chase & Charles Sts., contemplates installing new electric elevators, reconditioning present elevators; air conditioning building; clean face of building and interior improvements, est. cost, \$250,000.

Md., Baltimore—United States Construction Corp., 5100 Chalgrove Ave., has plans in progress for 50 dwellings, Chalgrove Ave.; stone; 2-story; Ernest Islip, Archt., 3034 W. Garrison Ave., cost \$125,000.

Mo., St. Louis—Missouri Pacific R. R., Guy A. Thompson, Trustee, authorized by Federal Judge Moore to expend \$6,422,894, for road and equipment improvements of road and its subsidiaries in 1936; of this amount \$5,236,868, will be spent on tracks, roadbed, bridges, shop equipment, locomotive, freight and passenger cars on the main line and balance on the subsidiaries; of the main line expenditures \$3,864,068 will be spent for road work and balance for equipment.

Mo., St. Louis—Cupples-Hesse Envelope Co., 4173 N. Kingshighway, soon call for bids for \$100,000 addition to plant; 2-story;

135x180 ft.; Koerner Engineering Co., Engrs., Syndicate Trust Bldg.

Mo., St. Louis—Grennan Bakeries, Inc., 3900 Washington Ave., acquired 2-story building 3908 Washington Ave., will use for wrapping and cake-icing sections.

N. C., Burlington—Duke Power Co., doubling capacity of gas generating plant, Main St.; cost \$30,000; C. E. Scott, Mgr.

N. C., Charlotte—F. W. Woolworth Co., 124 W. 36 St., New York, leased site N. Tryon St., erect \$150,000 building; 3-story and basement; air conditioned; will raze present buildings on site; soon prepare plans.

N. C., Greensboro—City authorized issuance of \$367,000 bonds to meet city's 55 per cent share of construction of new sewage-disposal plant and sanitary sewer outfall on N. Buffalo Creek; cost of both projects \$665,000.

N. C., Wilmington—Taylor-Colquitt Co., J. Marshall Fyre, Mgr., completing expansion program at creosoting plant, foot of Greenfield St. previously acquired from North State Creosoting Co.; work by company's forces; dredging 16,000 cu. yd. material from water front, filling in of waste lands with material removed, making land usable for lumber yard, erection of 1,000,000 gal. oil storage tanks and laying foundation for machinery; will install 3 pumps, creosoting cylinder of 8-ft. diam. and 130 ft. long and 200 h. p. boiler; capacity 4 car loads of creosoting material daily.

N. C., Wilson—City, J. L. Wiggins, City Mgr., construct \$181,000 rural transmission, 157 mile line; Dudley Bagley, State Rural Electrification Chrm.

South Carolina—Harold I. Ickes, Public Works Administrator announced allotment of \$5,500,000 as loan to South Carolina Public Service Authority for Santee-Cooper project; this loan in addition to a \$500,000 allotment made recently and to a grant of \$5,500,000 in terms of labor and material to be made available by PWA; total cost of project \$37,500,000; will require building of 2 reservoirs, covering 128,000 acres with storage capacity of 1,400,000 acre ft., a power house equipped with eight \$25,000 KV-A generating units; building of 585 circuit miles of transmission system covering eastern half of South Carolina and extending into North Carolina and Georgia, flood control facilities and mosquito control equipment.

Tenn., Nashville—Cain-Sloan Co., plans \$100,000 remodeling program, store Church St., will lengthen Church St. side; black carrara trimmed in satin aluminum; central entrance on Church St. and on Fifth Ave.

Tex., Amarillo—Board of Trustees, Amarillo Junior College, J. B. Dooley, Pres., has plans under way for superstructure of junior college building; \$115,000, 2 stories and basement, 15 classrooms, library, auditorium and offices, brick, struc. steel and rein. conc.; Guy A. Carlander, Archt., Amarillo; S. F. Pelton, has foundation contract at \$8485.

Tex., Big Springs—Cosden Oil Co., Chicago, Ill., signed license agreement with Universal Oil Products Co., and will remodel Winkler-Koch cracking unit into a 7000 bbl. per day Dubbs cracking unit.

Tex., Dallas—Ford Motor Co., Dearborn, Mich., plans expending \$2,250,000 for building and exhibits at Texas Centennial Central Exposition; E. I. du Pont de Nemours & Co., Wilmington, Del., will expend \$100,000 for exhibit.

(Continued on page 34)

CONCRETE

GIVES ADDED PRESTIGE TO A PROUD BUSINESS NAME

From coast to coast, architectural concrete is consolidating its pre-eminent position as the finest and most modern method of construction.

The great names of American business are choosing concrete, not by chance, but because it offers a combination of advantages that is unique:

Architectural distinction and beauty whether cast in the intricacies of the Gothic or in the simple planes and masses of modern, functional design. . . .

Fire-safety joined with rugged strength that resists earthquakes and the equally destructive boring of time and decay. . . .

Economy of construction that results from the

casting of structural frame, exterior walls and decorative detail in *one* operation.

Industrial plants, office buildings, schools, churches, courthouses and hotels in ever-increasing numbers are leading the swing to architectural concrete. Keep abreast of this spectacular development.

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Send for attractively illustrated booklet, "Beauty in Walls of Architectural Concrete".

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Architectural Concrete
Weather-resistant . . . Firesafe . . . Distinctive
. . . Economical . . . Structural frame, floors,
walls and decorations built in one casting operation



The Borden Company's milk products plant at San Antonio, Texas. Artlee B. and Robt. M. Ayers, architects. King B. Key, contractor.

Proposed Work

(Continued from page 32)

Tex., Fort Worth—Board of Education, E. P. Williams, Bus. Mgr., 409 E. Weatherford, have plans completed by middle of February for Arlington Heights senior high school; Preston M. Geren, Archt., 417 Bewley Bldg.; Dr. N. L. Engelhardt, Columbia University, New York, Educational Consultant; W. G. Clarkson & Co., First National Bank Bldg., to have plans completed about first of February for North Side senior high school, \$350,000.

Tex., Galveston — A \$250,000 hospital for negroes is planned for the John Sealy Hospital; Dr. Edward Randell, member, Board of Regents, University of Texas; R. L. White, Archt., 2260 Guadalupe St., Austin; ask bids within two months.

Tex., Houston—Champion Paper & Fibre Co., Canton, N. C., plans construction of \$3,000,000 pulp plant near Houston.

Tex., McCamey—Shell Pipe Line Corp., St. Louis, Mo., will begin construction immediately on 10-in. welded oil pipe line to connect its gathering system in Hobbs, N. M. field with its trunk pipe line in west Texas near the Hendrick field; distance of 41 miles; daily capacity of 30,000 bbl.; from the Hendrick station two 6-in. pipe lines of the company extend to McCamey where intersection is made with its trunk pipe lines.

Tex., Texas City—Petrotex Co., Marion Travis, Pres., construct 6000 bbl. cracking unit; cost \$400,000; designed by Mid Continent Engineering Co., First Natl. Bank Bldg., Dallas.

Va., Bowling Green—Farmers Rural Utilities, Inc., has loan of \$366,000 approved by Rural Electrification Administrator, Morris L. Cooke, will build 406 miles of lines in previously unserved parts of Spotsylvania, Caroline, Hanover and Orange counties.

Va., Clarendon—Arlington County School authorities considering possibility of erecting \$175,000 junior high school.

Va., Staunton—Nat Glasser, 829 Quincy, N. W., Washington, representing Warner Bros. plans rebuilding burned New Theatre; loss \$150,000.

Va., Suffolk—Chamber of Commerce negotiating with Century Ribbon Co., for establishment of textile mill; city to erect building.

Va., Victoria—Broad Silk Co., Hanover, Pa., establish pure silk mill; erect plant in 5 units, first unit to cost \$16,000.

W. Va., Bluefield — Oakwood Smokeless Coal Co.; capital \$250,000; W. W. Wood, Pres., Frank S. Easley, Sec.; develop coal at mouth of Garden Creek on Levisa River; initial capacity of 2,000 tons daily; will let contract at once for constructing tippie, store, miners homes and necessary buildings.

W. Va., Huntington—F. C. White, Room 406, 82 Wall St., New York City, and Percy Groves, Brown Bldg., Philadelphia, Pa., interested in organizing company to construct coal tippie, grain elevator, daily output, 10,000 tons; 500x500 ft. and 500x1000 ft.; steel and conc.; cost of buildings, approximately \$250,000, of grain elevator, \$1,100,000; install conveyors, winches, cables, etc.; date of opening bids on equipment not decided; will place in operation fleet of 100 barges and 26 tugs between Huntington, Kanawha river and upper Mississippi river ports.

Bids Asked

Mo., St. Louis—Bd. of Public Service receives bids Feb. 21 for pressure conduit No. 2-A, Howard Bend to Stacey Park; work includes furnishing, coating and delivering 17,357 ft. of 60-in. welded steel pipe 3/4-in. thick and 20,400 ft. of 60-in. welded steel pipe 1/2-in. thick together with all coupling required for conduit No. 2-A, Howard Bend pumping station to Stacy Park Reservoir, est. cost \$620,000; also furnishing materials, equipment, tools and labor necessary to distribute, lay and test a 60-in. welded steel pressure conduit from Howard Bend pumping station to Stacy Park reservoir, distance of 46,757 ft., field joints will be made with couplings; all pipe and couplings will be furnished by city, est. cost \$200,000.

N. C., Greensboro—City, C. W. Smedberg, Director of Public Works, soon call for bids on \$423,000 sewage disposal plant and \$242,000 sanitary sewer outfall on N. Buffalo Creek; W. C. Olsen, Engr., Raleigh, preparing plans for disposal plant.

Tenn., Memphis—City, Mayor Overton, receives bids Feb. 11 for general contract for \$280,000 public grain elevator on Wolf River; grading work under way; MacDonald Engineering Co., 1 La Salle St., Chicago, Ill., Engrs.

Tex., Arlington—North Texas Agricultural College, E. E. Bavis, Dean, opens bids Feb. 7 for dormitory; 4 stories and basement, 76x104 ft., L-shaped, brick, struc. clay tile, \$105,000.

Tex., Brownsville—U. S. Engrs., Galveston, receives bids Feb. 10 for furnishing material and labor and dredging at Brazos Island Harbor, from about station 14+200 to about station 15+150 along Brownsville channel, requiring removal of approximately 265,000 cu. yd. material.

Tex., Fort Worth—City asking bids for construction of buildings in connection with Centennial celebration: Horse show building, \$95,000, Feb. 10; coliseum, \$25,000, Feb. 7; auditorium, \$25,000, Feb. 7; memorial tower, \$5000, Feb. 7; cattle exhibit building, \$150,000, Feb. 12; exhibition building alterations and additions, \$90,000, Feb. 14; building for rodeo purposes, \$71,000, Feb. 10; casino and agricultural exhibit building, \$70,000, Feb. 10; merchants exhibit building, \$60,000, Feb. 12; stock unloading pens, \$5000, Feb. 14; entrance gates and fences, \$20,000, Feb. 14.

Tex., Yorktown—City call for bids about Feb. 15 for light and power plant; grant of \$100,000 approved by PWA; Garrett Engineering Co., P. O. Box 1726, Houston, Engrs.

The leading editorial, "Arresting Figures" in the January MANUFACTURERS RECORD has attracted wide interest. A number of our readers have ordered reprints in large quantities for distribution.

Additional reprints are available for this or any similar single page articles at \$5.00 a thousand delivered in bulk.

MANUFACTURERS RECORD.

Contracts Awarded

D. C., Washington—Highland Farm Dairy, has permit for 2-story, conc. block addition to dairy, 1615 First St., S. W.; S. E. Snyder, Bldr., 1706 Twenty-Fifth St., S. C.

Fla., Miami—City Comsn. let contract at \$323,000 to Walter Butler Co., St. Paul, Minn., for erection of nurses' quarters, service building, etc., at Jackson Memorial Hospital; George L. Pfeiffer, Archt., Gerard Pitt and E. A. Ehmman, Associates. (Low bid, 1-16).

Fla., Pensacola—Virginia Engineering Co., Inc., Melson Bldg., Newport News, Va., has contracts for construction at Naval Air Station; Spec. 8082, hangars, storehouse and shop, \$1,184,800; Spec. 8083, quarters, \$944,000; Spec. 8084, paving and exterior services, \$246,302. (Low bid, 1-17.)

Fla., Tampa—Paul Smith Construction Co., Haines City, has contract at \$220,965 for quarantine station construction at Tampa Bay. (Low bid 1-3.)

La., Lake Charles—Continental Oil Co., Oklahoma City, Okla., let contract to Apex Construction Co., 2nd Natl. Bank Bldg., Houston, and Darby Corp., 5534 Crestwood Ave., Kansas City, Kans., for pipeline and storage tank construction for handling production from Tegetate oil field near Eunice; Apex Co. has contract for laying 45 mile pipe line to Continental Co.'s Calcasieu river

La., New Orleans—McWilliams Dredging Co., Hibernia Bank Bldg., New Orleans, has contract at \$1,830,900 for earthwork construction in connection with Dauterive-Fish levee. (Low bidder, 12-3.)

La., Rodessa—Pelican Oil & Gasoline Co., Shreveport, La., let contract to Frick-Reid Co., Tulsa, Okla., for erection of \$200,000 gasoline absorption plant; Kansas City Southern Rwy. clearing ground for spur track, where Pelican company will erect loading rack.

Miss., Meridian — Hobbs Plumbing & Electric Co. has contract at \$45,295 for work in connection with new high school; John L. McLemore, Gen. Contr. at \$247,823.

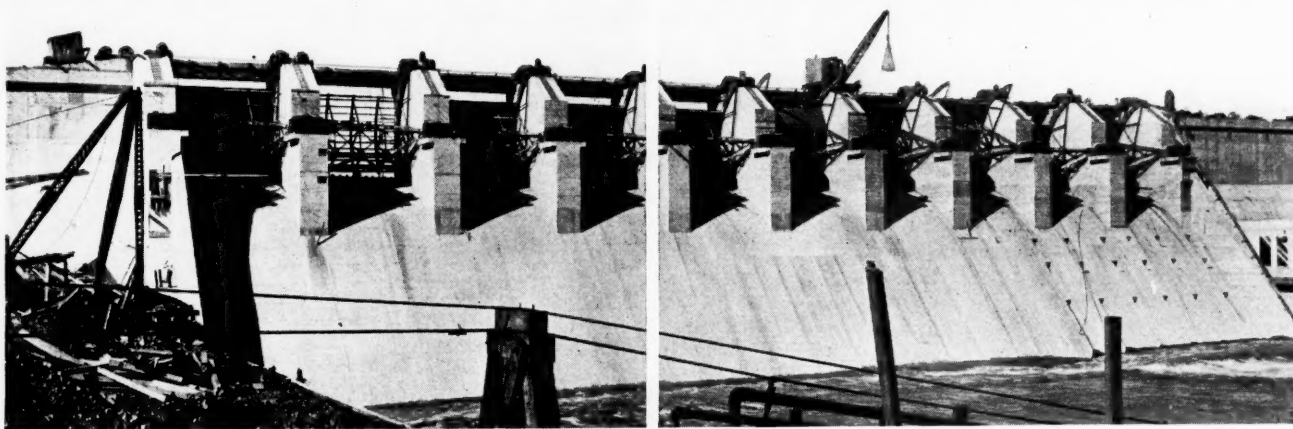
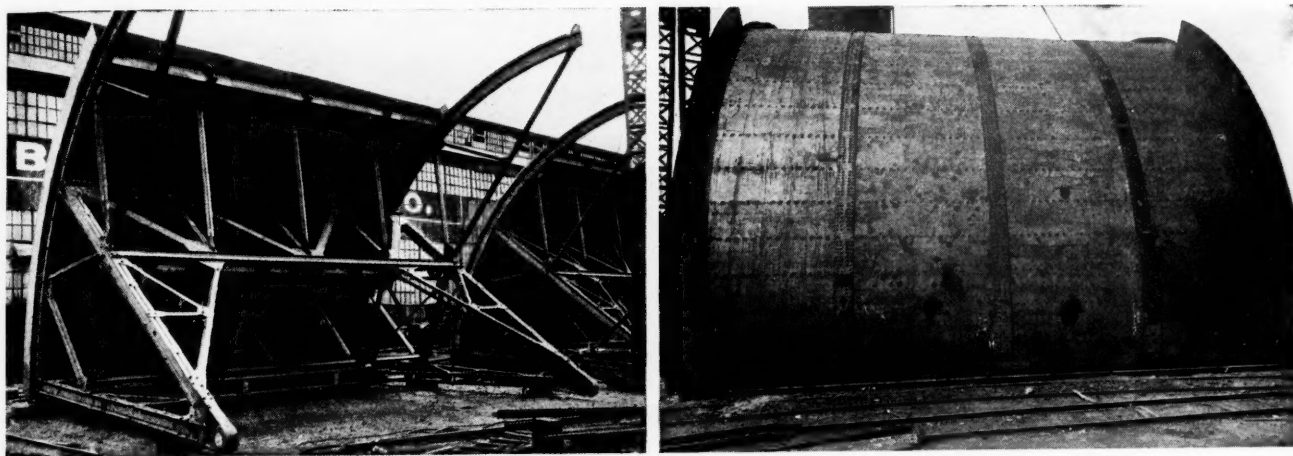
Mo., Senath—Rinehart Construction Co., International Office Bldg., 722 Chestnut St., St. Louis, has contract for \$97,053 high and grade school; Bonsack & Pearce, I. c., Archt., 411 Olive St., St. Louis; brick, 2 stories and basement, 60x220 ft., 60x80-ft. auditorium-gymnasium. (Low bid 1-21.)

Okla., El Reno—Canadian Mill & Elevator Co., let contract to Jones-Hettelsater Construction Co., Kansas City, Mo., for constructing 6-story mill and elevator, replacing burned structure; 36x100 ft.; with elevating, conveying, screening and other mechanical equipment; cost \$125,000; Horner & Wyatt, Bd. of Trade Bldg., Kansas City, Mo., Conslt. Engrs.

Tenn., Chattanooga — Mark Wilson Construction Co. has contracts approximating \$423,000 for construction of schools for Hamilton County; Soddy-Daisy, \$122,000; Hixson, \$122,000; Red Bank, \$122,000; Eastdale, \$57,000.

Tex., Austin—American Statesman, 121 E. Seventh St., let contract to Moore construction Co., 1600 West Ave., (general contractor for building now under construction), for 3 additional stories and basement; brick, struc. clay tile; struc. steel; stone and rein. conc.; metal lath; 92x128 ft.; built-up roof; cement and tile floors; plans in progress, sub bids and material prices being received by C. H. Page, Archt., Gracy Bldg., Austin.

Care in the Shop Avoids Trouble on the Job



FITTED FOR THE JOB

Upper pictures show Taintor Gates being assembled and fitted together in our Memphis Plant. We manufactured 10 of these for the Carpenter Dam on Ouachita River, Hot Springs, Ark. Lower picture shows Carpenter Dam with gates in place.

VIRGINIA BRIDGE

Steel Structures

Taintor Gates, as they are called, control the water elevation in dams. They must fit true and close for water-tightness and ease of operation. And then they have to stand considerable pressure. All of which calls for an exact job of manufacture.

We have built many taintor gates, sluice gates, intake gates, in fact all kinds of steel-work for dams and power projects. Which we mention here as evidence of our widely varied experience and ability.

VIRGINIA BRIDGE COMPANY
Roanoke, Birmingham, Memphis, Atlanta, New York,
Los Angeles, Charlotte, Austin, El Paso
Plants at Roanoke—Birmingham—Memphis

IRON, STEEL AND METAL MARKET

AT the end of January steel production was running at the rate of around 50 per cent of the country's capacity, and while there had been a slight recession due to severe weather conditions and a slackening of the automobile demand, it was anticipated that production in the near future would be gradually upward.

Scrap prices advanced 25 cents a ton. In the meanwhile, due to the difficulty of assembling and shipping the material under weather conditions, existing export prices advanced correspondingly.

Southern Activities

Birmingham reports steel mill operations were expected to be advanced to around 60 per cent or more of capacity, with probably 1,000 additional men being brought back to work.

Gulf States Steel Co. is operating at a rate between 50 and 60 per cent of capacity. The company made a very favorable showing in 1935. The demand for its various products continues good and it has greatly improved its cash position.

An event of unusual importance to the South was the purchase of the properties of the Virginia Bridge & Iron Co. by the U. S. Steel Corporation. This is referred to more fully in this issue.

U. S. Steel In Black

Another indication of the upturn in steel in the last year is the financial statement of the U. S. Steel Corporation, which for the first time in several years shows net figures in black. Profits were reported of \$1,084,000 which, contrasted with a loss in 1934 of twenty times the profit figures reported for 1935, show a gratifying reversal of the down trend.

Railroads Buying

As offsetting the temporary slackening of demand from automobile sources, observers note increased buying on the part of railroads and manufacturers of farm implements. Railroad cars are being ordered in quantity, and increased orders for rails and equipment have been received in encouraging volume.

The activity in road building, which promises during the current year to exceed any record of recent years, will call for more steel and reinforcing.

In addition to the above, while the principal increase in building operations reported over the country has come about by the demand for residences, the contracts placed for industrial structures has been important. In eleven months of last year, in the Southern states con-

tracts were placed for buildings of this larger type amounting to over \$100,000,000. With a temporary lessening of steel operations, there has been some recession of prices, which is disappointing to producers and is being carefully watched.

The reopening of the rail mill at Ensley is due to the rail demand which has been the best for some time. Orders on hand are reported to be in sufficient volume to warrant steady operation for probably four months and more.

Pipe manufacturers are encouraged by an increase in buying from oil fields, as well as in so-called regular lines. It is anticipated that demand will grow and as a consequence some plants are making plans for increased production.

Again the South is taking a major part in its requirements for pipe for various purposes, including water works. The far West, California and Washington, ordered more than 1100 tons of cast iron pipe from Birmingham manufacturers last month. A large order was awarded the Wheeling Steel Corporation for 160,000 feet of lap-welded steel pipe to be used on irrigation work in New Mexico.

December was one of the largest months in blast furnace operation in the Birmingham district that has been experienced in several years.

Expanding Units

Plans for modernization and economy in operation by steel manufacturers, by consolidations and otherwise, have occupied a large share of attention. A rebuilding program that may involve as much as \$100,000,000 is being taken up at Pittsburgh. This includes the huge program of the Jones & Laughlin Co., the Carnegie-Illinois Steel Co., with a new sheared plate mill at Homestead to cost \$15,000,000 and an expected new strip mill for the American Sheet and Tin Plate Co. at Clairton that may mean an investment of \$25,000,000.

Henry Ford pointed out in a recent magazine article the rapidity with which obsolescence takes place. Manufacturers recognizing this are more alert than ever to install improvements in mechanical and handling operations. As a matter of fact, it is anticipated when the railroads—the largest buyers of supplies of every description—are financially able to re-equip and redesign where necessary their rolling stock to meet competition and increased traffic demands, which undoubtedly will come about, it will be the principal source to which metal manu-

facturers will look for increased business.

Steel Consumption Mounts Steadily

Walter S. Tower, executive secretary of the American Iron & Steel Institute, told the Scrap Iron & Steel Convention the tendency to demand steel products made according to closely defined specifications is a rapidly growing one. He said:—"Recently we made a calculation at the American Iron & Steel Institute which indicated that the industry, in order to meet the almost endless variety of demands from its many customers, must be prepared to produce hundreds of different types of products in many thousands of different combinations of shapes, sizes and chemical analyses.*** This calls for a degree of precision in controlling the analysis of steel that is closely akin to the precision expected of a druggist compounding medical prescriptions." Mr. Tower brought out some very interesting figures as to the expansion of a nation-wide market for steel among all classes. For example: "As the living conditions of the average individual improve, it inevitably means he uses more steel. In 1900 the production of steel for use in this country was somewhat more than 1000 pounds for each family. In 1929 it was close to 3000 pounds per family. Of course, a large part of that steel is for uses which serve the people generally, like railroads, bridges, factories, etc., but it is estimated that the average housewife actually has 600 pounds of steel in household furniture and equipment in her home."

Bethlehem's Plans

The Bethlehem Steel Corporation stockholders, at a special meeting to be held shortly, will be asked to vote approval of a program designed to bring the capital structure of the corporation into better arrangement. Two major changes are involved: the consolidation of five of the leading companies of the Bethlehem Corporation, and paying off accumulated dividends on the 7 per cent preferred stock by new 5 per cent preferred. The consolidation program is primarily designed to adjust the capital structure to meet changed income tax laws.

The Bethlehem Steel Corporation is a holding company, including about 65 separate corporations operating iron mines, steel mills, finishing plants, railroads, shipbuilding yards and construction projects.



Up to the Standard

It is easy to set a standard of quality. It is harder to maintain it... With every manufacturing process at one big plant, we can and do maintain a standard of quality and uniformity in GULFSTEEL SHEETS that is meeting an ever-increasing response from metal workers and fabricators. When UNIFORMITY is essential, as well as quality, Gulfsteel Sheets are selected.

GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA

Truck Body
fabricated from Gulfsteel Sheets
by

**BIRMINGHAM
BOILER & ENGINEERING CO.**
BIRMINGHAM, ALABAMA

for
STANDARD OIL COMPANY
INCORPORATED IN KENTUCKY

GULFSTEEL
The Steel with **PERSONALITY**

LUMBER NEWS

OF THE MONTH

Residence Construction and Industrial Activity Help Lumber Industry

**Substantial Progress On Road To Recovery
Made In 1935—Production Increased 75%
Above 1932 Low Point**

Rallying from the low point of 10 billion feet produced in 1932, recovery in the lumber industry during 1935 boosted production to 17½ billion feet, Wilson Compton, manager of the National Lumber Manufacturers' Association, reports. The 1935 figures surpass by 11½ per cent the 1934 production of 15½ billion feet and represent a gain of 20 per cent compared with the 14 billion feet produced in 1933.

Particularly noteworthy, as foreshadowing the future, is the increase of 40 per cent in production during the last quarter of the year, compared with the corresponding period of 1934. It is notable, too, that consumption in the last half of 1935 was at a rate approximately 20 per cent higher than in the corresponding six-month period of 1934.

As the new year opened the industry was cheered by the indication that residential construction in 1936 will be double the 1935 figure, for home-building is the largest factor in lumber consumption. Indicative of the upward trend for 1936, is the gain in residential building volume during the last half of 1935 of two and a half times the 1934 rate.

Coupled with continued improvement in industrial building and a corresponding increase in lumber consumption, Mr. Compton estimates consumption during 1936 may run around 25 to 26 billion feet, and the industry would be back to the 1930 level.

Complete restoration of normal activity in the lumber and timber products industries will stimulate general economic recovery in some 30 states and markedly so in 10 states where it is in the forefront in employment.

Notwithstanding the general quest for a mass-production house of materials other than lumber, Mr. Compton points out that lumber is taking the lead in pre-fabrication — over 7,000 pre-fabricated building units have been erected for the CCC in which the number of units for assembly at the building site was 76, a reduction from a normal of 1153 items.

Southern Pine Mills Enter Prefabricated House Field

**Satisfactory Results In Building Units For CCC
Cheer Lumber Firms**

Experience and results achieved in producing prefabricated or "panelized" frame buildings for CCC camps have caused firms in the lumber industry to give serious consideration to the feasibility of utilizing similar "line" production methods in the building of low-cost, lumber-built private homes.

These fabricated units are sectionally constructed, described as easy and quick to erect and readily demountable. It is believed they would be especially satisfactory and practicable in dwelling construction in rural or suburban communities.

During the past year more than 7000 prefabricated buildings have been produced by Southern pine sawmills.

This mass production of buildings is an innovation in the customary manufacturing activities of Southern pine sawmills.

In the prefabricated CCC houses, which are 20 feet on a side, there are but 34 factory-made panel units for walls, roofs and floors, and 42 separate pieces of lumber. This is in striking contrast to the 1153 single sticks of lumber needed in conventional construction of a similar structure.

Six men, it is said, can readily assemble such a prefabricated, one-room panel house in a day. The panels are delivered to the site fully equipped, including windows, doors, locks and hardware.

Certain improvements in design and construction, now in the course of development will, it is felt, make the fabricated-unit, lumber built small home of the future more generally suitable and popular.

Operate at Full Capacity

Bluefield, W. Va.—With more than \$50,000 worth of business booked in the first 15 days of January, the plant of the Georgia Lumber Co., Walter Perkins, president, is operating full time for the first time in eight years. Added impetus given the home building movement as the result of the growing shortage of houses, coupled with the ability now to finance such new construction readily, is responsible for the upturn.

Important Forest Service Post

**Seek to Maintain Wood Utilization in House
and Rural Building Construction**

Washington, D. C.—George W. Trayer, research engineer at the Forest Products Laboratory in Madison, Wis., is chief of the newly established Forest Products Division, with headquarters here.

Commenting upon the new position, which involves liaison activities designed to integrate wood utilization research with Federal forest activities, F. A. Silcox, chief forester, said:

"The Forest Service has under way studies aimed at improving building practices and developing superior structural systems to provide better and more cheaply maintained structures at appreciably lower costs. Contemplated improvements will help to maintain wood in the leading role as a building material, especially in house and rural building."

The importance of sustaining the demand for lumber in house and rural building operations is at once apparent considering the fact that at times 60 per cent of all lumber produced in the United States has been so consumed.

Airplanes Widely Used In Forest Service Work

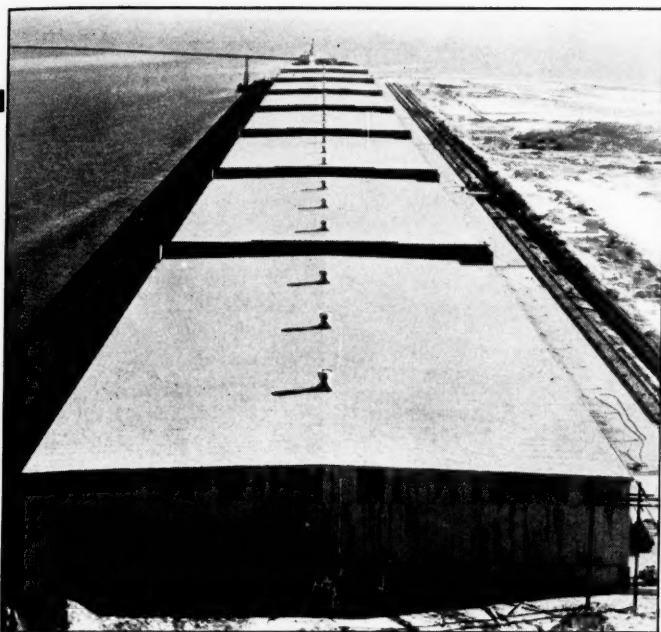
Airplanes played important roles in activities of the U. S. Forest Service during 1935, a survey by the U. S. Department of Agriculture discloses. More than 200,000 pounds of supplies and equipment and 772 men were transported on fire suppression and other jobs in airplanes. Also, more than 20,000 square miles of national forest areas were photographed for mapping purposes.

Besides having proved especially valuable for reconnaissance of going fires, aircraft showed their principal value in the quick transportation of equipment and supplies to fire-fighters, and for the quick transportation of men to fire areas. In this connection many emergency landing fields have been built in national forest areas.

An exhaustive series of tests, aimed at greater efficiency in transporting men and materials by airplanes, is being conducted by the Forest Service. Experiments have to do with the feasibility of dropping tools, supplies and men by means of parachutes.

Modernize buildings with . . .

durable asphalt roofs



On this extensive old building of the West Pier Warehouse, Gulfport, Miss., a Genasco Standard Trinidad Built-up Roof was applied last year to give enduring protection.

Roof security is felt with Trinidad



THAT means a Genasco Standard Trinidad Built-up Roof. It is the only one of the built-up type constructed with thoroughly saturated long-fibred all-rag felts and water-proofed with Trinidad Lake Roofing Asphalt.

Trinidad Lake Asphalt not only thoroughly water-proofs, but gives additional protection to roofing from the destructive action of the actinic rays of the sun.

Give older buildings a new lease on life with a Genasco Standard Trinidad Built-up Roof. Write for a copy of "For Your Roof." Sent free upon request.

THE BARBER ASPHALT COMPANY
PHILADELPHIA

New York

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STANDARD TRINIDAD
Built-up Roofing



IN construction work where permanence and low annual costs are vital factors in the selection of materials, AmCreCo products enjoy a reputation for preeminent quality and dependability. The original strength of the wood is retained throughout its full life as decay, termites and other agencies of deterioration are unable to cut down its effective section. Let us quote on any of your requirements.

AMERICAN CREOSOTING COMPANY

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LOUISVILLE — KENTUCKY

HIGHWAY INDUSTRY SET TO GO

THE highway industry has recovered!

The 1936 road show of the American Road Builders' Association, held in Cleveland, January 20-24, brought conclusive proof of that.

The convention, held simultaneously with the road show, developed equally convincing evidence that the highway profession has made a sound appraisal of past performance, and is prepared to provide roads and streets in keeping with present and future demands of motor vehicle traffic.

By

Chas. M. Upham

Engineer-Director, American Road Builders' Association, Washington, D. C.

Attendance Representative

More than 14,000 of the 16,000 members of the highway profession and industry registered were from outside of Cleveland, and more than 11,000 outside of Ohio. The attendance was representative of the entire highway industry and profession in America. There were delegates from foreign countries, including Mexico, Cuba, England, Russia, and a large delegation from Canada.

There were 217 exhibits, of which about 200 were commercial exhibits entered by manufacturers of equipment and producers of materials. Exhibitors came from 100 cities and 24 states. Exhibits ranged from a 72-ton power shovel to instruments smaller than a portable radio.

Machines Built To Work To Exact Specifications

In variety of equipment exhibited, in attractiveness of individual exhibits, and in optimism of exhibitors, the show surpassed all others. Conservative estimates placed the value of equipment exhibited at \$2,000,000. Many new types of equipment were shown, and countless improvements were in evidence on equipment displayed at the last show held three years ago. The trend of road-building equipment is definitely toward highly mobile, large capacity units and specially designed machines to meet exacting requirements of engineers.

Eighty-two speakers appeared, or were represented by papers, at the 25 group or divisional sessions into which the convention program was divided. Topics ranged from the highly technical to such every-day, popular subjects as highway fund diversion and traffic safety.

The highlight of the convention undoubtedly was the adoption of the "Platform for American Highway Development." Drafted by a committee headed by Col. Willard T. Chevalier, president-elect of the group, it was adopted by the Association after first having been approved by the National Highway Advisory Council.

The Platform is composed of 10 sections. The substance of each of its provisions is as follows:

Road-Building Platform Advances Sound Planning

- 1—The A. R. B. A. is committed to an active campaign for an adequate highway system, based upon: First, the determination of actual traffic requirements on each highway under consideration for improvement; second, planning, design and construction of highways that are adequate to serve both present and future traffic, and, third, the financing of highway operations on a basis that takes into account all who will be directly benefited.
- 2—Continued and unequivocal opposition to the diversion of highway funds—gasoline taxes and license fees—and urged their dedication exclusively to construction, reconstruction and maintenance of highways and streets.
- 3—Continuance of Federal Aid for highway construction, and vigorous opposition to all interference with its administration by the Bureau of Public Roads.
- 4—Approval of gradually-reduced emergency Federal highway appropriations until States and local governments can resume their normal responsibilities.
- 5—Administration of all expenditures for public highways by the Bureau of Public Roads.
- 6—Immediate study to determine a sound plan upon which to extend Federal Aid to the development of secondary highways and through streets, including those under county and municipal jurisdiction, but always subject to standards specified by the Bureau of Public Roads.
- 7—Adoption of public policies requiring that construction and maintenance of all highways be entrusted only to competent and experienced highway officials, engineers and superintendents, and that all new construction be performed under the contract system.
- 8—Removal of highway development from the status of an unemployment relief measure to restore road-building to the status of a productive public investment.

9—Full support of the public demand for removal of all hazards on highways already built, with safety as a primary objective on all new road construction.

10—The A. R. B. A. urges that in considering the effect of highway expenditures on the employment of labor, full recognition be taken of the industrial labor involved in producing materials and equipment, and in the transportation of these, as well as labor employed on actual construction.

An atmosphere of "good times ahead," and a rekindling of optimism that is founded upon sound, business judgment pervaded the convention and show.

Stimulates Activity In Many Lines

Every section of the country will benefit from the road show and convention. Such a demonstration of returning prosperity will encourage manufacturers in every line of industrial activity. The automobile show, the machine tool show, and the road show have served to give the Nation an object lesson in economic courage and industrial confidence.

The highway program for the current calendar year calls for the expenditure of more than a billion dollars. What the program for next year will be depends to a considerable extent upon legislation enacted by the present Congress. The Hayden - Cartwright Act authorized \$125,000,000 in Federal Aid for the fiscal years 1935-36 and 1936-37, but an appropriation in this amount will be necessary by the present Congress to prevent "default." Congress undoubtedly will prevent such a calamity as would result from failure to make this appropriation.

Continued Federal Aid Urged

Associated General Contractors of America Approve Petition to President and Congress

Coral Gables, Fla.—The Associated General Contractors of America, at its annual convention here decided to request the Federal Government continue to help build State roads.

A petition urging appropriations for each of the next four fiscal years will be drawn up and presented to the President and the seventy-fourth Congress.



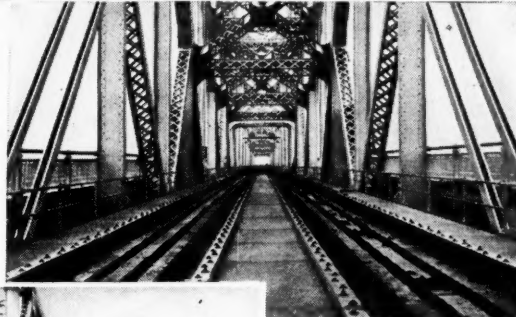
MISSISSIPPI RIVER CROSSING OF THE World's Longest Railroad Bridge

THE PRINCIPAL cantilever span is 790 feet long and has 135 foot clearance over mean high water. Each of the anchor arms is 528 feet long, and the 531 foot through-truss span on the New Orleans side of the cantilever is similar in appearance to the suspended span. Four deck spans, one 330 feet long and three 267 feet long, complete the main bridge superstructure.

Engineers: Modjeski, Masters & Case, Inc.

THREE and one-half miles above New Orleans a combination railroad, vehicular and pedestrian bridge has just been opened as the southernmost span over the Mississippi. This structure, the 29th to span the "Father of Waters," approximates four and one-half miles in length.

The main bridge superstructure over the river, about 3,525 feet long, was fabricated and erected by American Bridge Company. In its construction, extensive use was made of silicon steel and heat-treated eye-bars, typifying the advance in uniformity of mill-work and steel control since Capt. Eads' first steel bridge at St. Louis.



TWO RAILROAD tracks across the bridge provide through service for western railroads into the city of New Orleans.



THIS 18 FOOT roadway and another like it on the other side of the railroad tracks are cantilevered outside the main trusses which themselves are spaced 33 feet on centers. With two pedestrian walks, the total width is 78 feet.



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UNITED STATES STEEL

FEBRUARY NINETEEN THIRTY-SIX

EQUIPMENT

NEW AND IMPROVED

Allis-Chalmers Loom Motor

Especially designed for individual loom drives, a new motor, for which is claimed high efficiency and power factor, low slip, and close speed regulation from no load to full load, is announced by Allis-Chalmers Manufacturing Company, of Milwaukee, Wis. Being fully enclosed, it is free from the effects of dust and lint. The motor is available in $\frac{1}{2}$ to 2-h.p. sizes, for either 2 or 3-phase, 60 cycle operation, in commercial voltages from 220 to 550. The stator frame is of cast steel with feet cast integral, and stator coils thoroughly insulated and so impregnated as to make the windings moisture resisting.

Circular Mercury-Incandescent Light

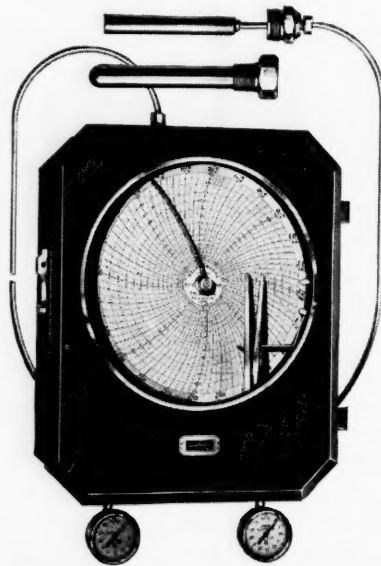
General Electric Vapor Lamp Company, Hoboken, N. J., announces a self-contained industrial lighting unit with color characteristics said to approach actual daylight more closely than any commercial light source available. Known as the "circular mercury-incandescent," the light consists of a unit in which a circular mercury-vapor tube and an incandescent lamp are combined beneath one reflector to provide the desired spectral balance. The light is recommended particularly for industrial lighting applications involving accurate color differentiation, critical inspection or manufacturing operations involving difficult visual problems. Both lamp and tube are easily removed for cleaning.

1936 Models REX Construction Equipment

Striking a new note in the design and construction of their 1936 models of REX Construction Equipment, Chain Belt Company, Milwaukee, Wis., announce the former unattractive complexity of mixers, moto-mixers, and pumps "has given way to attractive simplicity, enclosed gears, and a tendency toward streamlining." Sheet steel and gear cases strengthen and improve the operation of this equipment. New machines in the REX Construction equipment line consist of a 7-S two-wheel end discharge; a 10-S two-wheel end discharge mixer; newly designed 28-S—three new models of REX Moto-Mixers and Agitators, and two new and improved models of REX Speed Prime Pumps. Existing models have also been modernized.

Taylor "Thermospeed" Separable Well Tube System

Many temperature measurement and control applications require a separable well to protect the temperature-sensitive bulb from corrosion or erosion, to give it adequate support, or to permit the removal of the bulb at any time without interrupting the processing. The extra thickness of metal and the inevitable dead air space between the well and bulb have always caused delay or lag, it is said, in transmitting a change in tem-



perature to the bulb. After months of intensive research, the Taylor Instrument Companies, Rochester, N. Y., claim to have developed a separable well tube system, known as the "Thermospeed," having a speed response approximately six times faster than the average separable well tube system in service whose construction the manufacturers regard as the most important advancement in tube system design in recent years.

Flexlock Rubber Pipe Joint

Offering a permanent, positive seal for bell-and-spigot pipe conveying acids, alkalis, sewage and other industrial wastes, the Flexlock Joint, made by The B. F. Goodrich Company, Akron, Ohio, is now available for use with specially constructed ceramic pipe in low pressure service—a maximum of 15 pounds per square inch—and in temperatures not exceeding 175 degrees Fahrenheit. Its adaptation to ceramic pipe was developed in cooperation with Robinson Clay Products Company and U. S. Stoneware Company, both of New York.

Acme Heavy Duty Floorsteel

Extensively used by a large number of industrial companies for plant floor armoring, Acme Heavy Duty Floorsteel, manufactured by Acme Steel Company, Chicago, Ill., provides a long-wearing, non-skid floor surface at low cost. This new construction consists of a network of small mesh ($1\frac{1}{4}$ inches by $1\frac{1}{4}$ inches), made of heavier sections of rolled steel than were formerly used. This reinforcement may be used for either old or new floors; over concrete, brick, wood, or any other surface, and is laid flush with the finished floor line. It is then filled with concrete or asphalt mastic, whichever is best for conditions encountered. The product comes in one-piece rolls of 100 square feet or more.

To Produce Iron Plate Paving At Ohio Plant

Interlake Iron Company, Toledo, Ohio, has awarded contracts totaling \$100,000 for the construction of a new plant for the production of iron paving plates, a new form of paving displayed at the recent Road Show in Cleveland. The new plant to produce it will be the first of its kind in the United States. Tests have shown that the new paving is durable. It is also said to reduce wear on automobile tires. The iron plate is constructed in the form of a $10\frac{1}{2}$ -inch triangle and is $1\frac{3}{4}$ -inches thick, with a flange about 1 inch deep and $\frac{1}{2}$ -inch thick around the bottom.

Typewriter Accounting-Distribution Machine

The latest development of the Burroughs Adding Machine Company, Detroit, Mich., is the Burroughs Typewriter Accounting-Distribution Machine which will do selective skip tabulation, make a typewriter accounting machine print, and add at will in any column on forms up to 30 inches wide. Although the machine has a complex mechanism, it is simple to operate, and in a general way may be applied to reports and statistical work and for columnar distribution journals, with or without ledger posting. Other distribution work, such as pay-rolls, sales, labor, purchases, etc. may be handled whether the records are to go on wide or narrow forms. In the case of vertical distribution the narrow form is spaced as the distribution proceeds. Electric operation contributes to the simplicity and ease of the machine's operation.

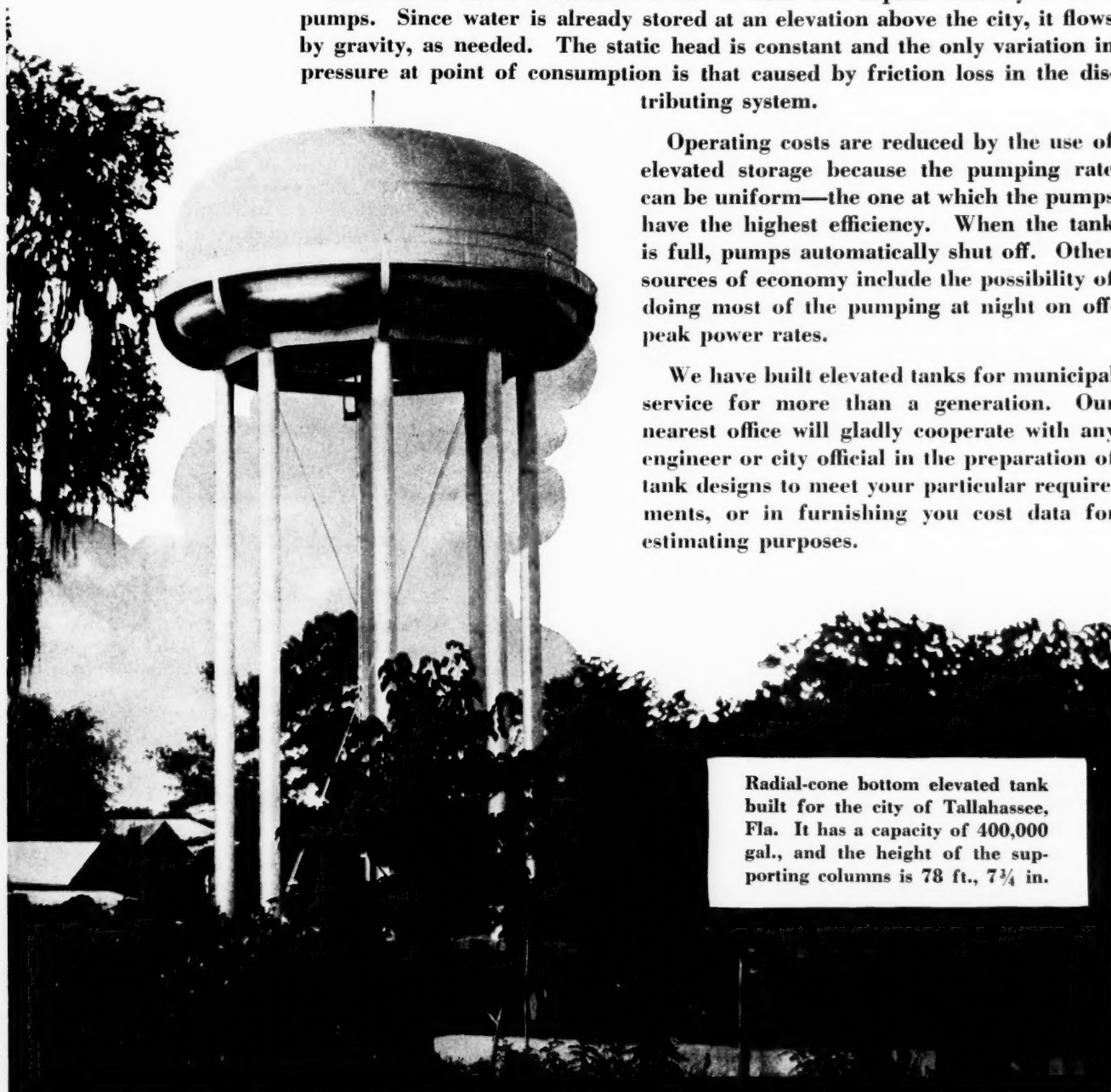
To Improve Pressure and Cut Operating Costs

These two results almost inevitably follow the installation of adequate elevated storage in a water supply system.

Pressure is more uniform because it does not depend entirely on the pumps. Since water is already stored at an elevation above the city, it flows by gravity, as needed. The static head is constant and the only variation in pressure at point of consumption is that caused by friction loss in the distributing system.

Operating costs are reduced by the use of elevated storage because the pumping rate can be uniform—the one at which the pumps have the highest efficiency. When the tank is full, pumps automatically shut off. Other sources of economy include the possibility of doing most of the pumping at night on off-peak power rates.

We have built elevated tanks for municipal service for more than a generation. Our nearest office will gladly cooperate with any engineer or city official in the preparation of tank designs to meet your particular requirements, or in furnishing you cost data for estimating purposes.



Radial-cone bottom elevated tank built for the city of Tallahassee, Fla. It has a capacity of 400,000 gal., and the height of the supporting columns is 78 ft., 7 1/4 in.

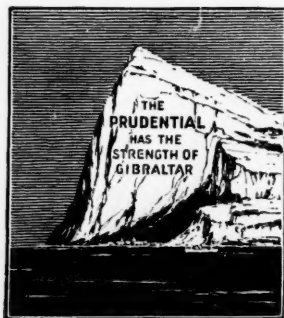
CHICAGO BRIDGE & IRON WORKS

Birmingham	1530 North Fiftieth St.	New York	3313-165 Broadway Bldg.	Philadelphia	1619-1700 Walnut Street, Bldg.
Dallas	1408 Dallas Athletic Club Bldg.	Cleveland	2216 Rockefeller Bldg.	Detroit	1510 Lafayette Bldg.
Houston	2919 Main Street	Chicago	2106 Old Colony Bldg.	Boston	1510 Consolidated Gas Bldg.
Tulsa	1611 Thompson Bldg.	San Francisco	1040 Rialto Bldg.	Havana	Edificio Abreu 402

B-413

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and women who look ahead.
Leaving nothing to chance, they
want dollars ready when needed.

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THE PLANS THEY FAVOR*

THE PRUDENTIAL
INSURANCE COMPANY OF AMERICA
EDWARD D. DUFFIELD, President
HOME OFFICE, NEWARK, N. J.

FINANCIAL NEWS

Business Moving Forward

Notwithstanding the definite knowledge that taxes are bound to be materially increased, business continues to move forward gradually. There have been recessions in some lines, but not as much as might be expected from usual seasonal variations. On the whole it appears industrialists realize that by their own efforts alone must jobs be created and that private enterprise must look after its own affairs.

After the Bonus?

There has been a complacency throughout the country among those who took no active part in the campaign for the soldiers' bonus. It arose from the feeling that everybody else was getting theirs, and the men who did the fighting ought to have a fuller share of the pie being handed around. One Congressional advocate of the payment said two and a half billions was a drop in the bucket for this great country. Maybe so. But this should cause no one interested in the rising tax bill to lose sight of the fact that other groups are girding themselves for a demand that now they want "theirs." The stream of government beneficiaries, as it increases in volume, appears to have no end.

Attention to Individual Business

Idle capital which is accumulating in huge amounts soon may be expected to seek wider opportunities for profitable investment. All of this should and will have a stimulating effect upon recovery. The needs of the country are vast and increasing. Finding ways to meet the demands of this market will engage more and more the attention of industry.

Social Security

John E. Edgerton, president of the Southern States Industrial Council, said recently that "every dollar of the millions required to put the Social Security Act in operation will come from the pockets of the working people, the mass of whom will never see a cent of it again."

He gave as his opinion that:

"Congress has done nothing to render more insecure the society which it seeks to preserve, than to enact this so-called 'security law'."

"As to the working of the law in the various states, I believe it will have as one of its most immediate effects the laying off of thousands of persons now employed."

What of the Government Bond Market

Talk of inflation was certainly responsible in some degree for the rise in security prices last month. The market for a time was nervous about government bonds as they registered declines. They came back later.

The amount of financing to be done by the government this year runs into huge figures, and it is vitally necessary to have the support and cooperation of the banks which are counted upon to take a large share of offerings of governments. The watch kept on the market is very close; a fraction of a point variation in the price runs into large figures of possible profit or loss to holders whose portfolios contain hundreds of millions of government securities.

The question of government credit is being much discussed in view of a national deficit which has grown enormously.

(Continued on page 46)

WHY "YARDSTICKS" WON'T WORK

AN OUTSTANDING popular fallacy has been the application of so-called "yardsticks" to electric rates. The TVA is supposed to be a measure for rates over a wide area. Municipal electric plants are used as a measure for private plants. One town is a "yardstick" for its neighbor. The fact that most of these comparisons are made between economically dissimilar situations does not discourage the "yardstick" wielders in the least. The result has been widespread misinformation as to the fairness of electric rates.

Study of 19 Utility Units Indicates "Yardstick" Fallacy

A recent study of nineteen electric operating units shows clearly the great differences involved

in bringing electric service to these areas. In one area, the customer requires for service an average of 3 feet of transmission line, while in another area 210 feet are required. Similarly, there is a variation in distribution lines necessary to serve the customer from 20 to 384 feet.

The Federal Power Commission concedes that differences in rate levels are justified by the diversities of consumer requirements, the character and density of population, geographical conditions, accessibility to fuel or water power and the lack of uniformity of taxes.

These factors emphasize the fallacy of comparing electric rates by employing "yardsticks," and also indicate why electric rates cannot all be the same the country over in urban and rural districts, but must be determined for the specific area served.

ASSOCIATED GAS & ELECTRIC SYSTEM



Opportunities Ahead

New opportunities create new responsibilities for American industry and banking. The American banking system has contributed largely to the economic progress of this country. Its knowledge, experience and cooperation are now invaluable—with industry moving on to better times.

Baltimore Commercial Bank

GWYNN CROWTHER, President

Baltimore, Maryland

Member Federal Reserve System

Member Federal Deposit Insurance Corporation

A CANDID ANALYSIS of your needs

The George S. May Company has been tremendously successful, not only because of its ability to diagnose the needs of a business intelligently and to apply the proper remedies, but because it has always dared to tell the truth to every client, without fear or favor.

The merit of this policy is proved by its record of accomplishments in hundreds of well-known manufacturing plants.

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CHAIN LINK FENCE THAT CAN

Stand the Wrap



No weak spots for corrosion to attack—the BETHANIZED wire can be wrapped around its own diameter without breaking or flaking its corrosion-defying zinc coat.

HERE are the quick facts. Bethanized wire has a coating of chemically pure zinc—free from any vulnerable iron content. The coating is smooth and uniform—not hard and brittle. Twist the wire, bend it double, wrap it around itself—you just can't break the zinc coating and expose the steel core.

Think what that means. An Anchor Fence of Bethanized wire is a fence with no flaws in its pure zinc armor—no cracks or crevices through which corrosion can creep in. Because Bethanized wire can "stand the wrap," these Anchor Fences stand up for many extra years of service—even in industrial atmospheres that are heavy with soot, salt, sulphur and other corroding agents. And now there's no "premium"—no extra cost—for Bethanized wire.

Anchor Fence of Bethanized wire—in types to suit every industrial requirement—are immediately available to you through sales and erecting offices located in every important industrial center in the South. Learn *why* the new Anchor Fences of BETHANIZED wire will outlast by many years any other chain link fence you can buy. Mail the coupon—and bring yourself up to date on chain link fence.

ANCHOR Fences

OF *BETHANIZED* WIRE

TODAY PLEASE

ANCHOR POST FENCE COMPANY
6622 Eastern Avenue, Baltimore, Maryland

I will appreciate a copy of your free specification manual giving full details concerning ANCHOR FENCES OF BETHANIZED WIRE for Industrial Property.

NAME

ADDRESS

Financial News

(Continued from page 44)

Payments on Farm Debts

The Farm Credit Administration reports that during December farmers paid current and delinquent interest installments on first and second mortgages amounting to almost 100 per cent of the December maturities. On payments of more than \$3,000,000, there was an actual shortage of only \$10,000.

The Opportunity

Figures appear elsewhere in this issue about the increasing capital of the South used in promoting local industry, and the vast, developed and latent resources which should give encouragement and outlook to everyone.

It is a remarkable story that has been told many times before, but does not grow dull from repetition—the recovery of a section blasted by war overcoming difficulties that at the time might well have been regarded as insurmountable.

The South today is an example of what Americans can do and have done in rebuilding. This should give courage and determination to those who are inclined to believe that because of great difficulties through which we have been passing recently the future is in doubt. There are difficulties, but life in this country today in contrast with any other country of the world is luxurious, and the opportunity presented is for vaster and better things than ever before.

The Fear of Inflation

Business sees the Federal debt this fiscal year reaching \$36,500,000,000. It will be paid only by prosperity fostered by hard work and economy. The point is being pressed upon Congress from all quarters, but recent events give little encouragement to those who had hoped for different results.

There has been inflation of a sort in ascending prices of commodities and lower value for the dollar. There is a basis for tremendous credit inflation in the idle funds amassed in the banks. The lay mind, however, in dwelling upon the term inflation thinks of printing press money and the chaos that would follow its issuance. We have had it before in the country's history, and more recently have seen its dreadful effect in European countries. The fear of such a denouement here is present and will continue until there are clear, unmistakable efforts toward balancing the budget.

Instead of considering and debating how much debt the country can stand, it would seem to be the better part of wisdom to have an audit of what has been gained by the money already spent.

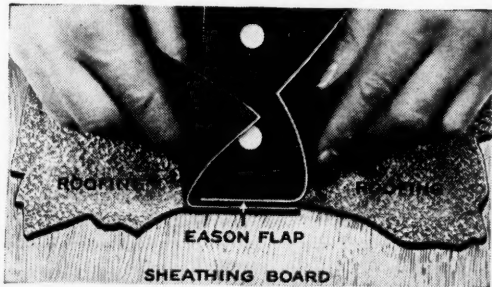
Ten Million New Homes

U. S. Senator Robert F. Wagner of New York, considering the amount of idle labor and the shortage of modern housing, suggests a 40 billion dollar building program over the next ten years. He advocates government financing 25 per cent in low rent housing developments, while private industry, aided by Federal subsidies, is expected to account for the other 75 per cent.

He is of the opinion that one-third of the people of this nation now live in unfit homes. Furthermore, that 50 per cent of idle labor is in the building trades and only a small per cent of idle private capital is being used for construction purposes.

"A home selling at about \$4,000 under proper mortgage terms, would not be beyond the purse of families in the \$1500 a year bracket," says the Senator, and sees "no reason why we cannot build at least 10,000,000 new housing units within ten years, raising the standards of all sections of our people and the underprivileged out of the mire of unhealthy surroundings."

.... **Genuine RU-BER-OID**
now obtainable with **EASON FLAPS***



**Ingenious 7-Layer Seam
SEALS NAILS—PREVENTS LAP LEAKS**

WE COULDN'T improve Genuine RU-BER-OID Roll Roofing, so we improved its method of application. The Eason Flap affords 7 layers of protection at the former weakest point of a roll roofing roof—the seams. With Eason Flaps all nails are sealed with two layers of fabric and one of asphalt seam cement. Nails cannot rust or pop out because of heat. Virtually a 7-layer, built-up seam with closed lap edge, there is no opportunity for wind or water to get under.

Eason Flaps are supplied with Genuine RU-BER-OID Roll Roofing at only a small additional cost. It will pay you to investigate.

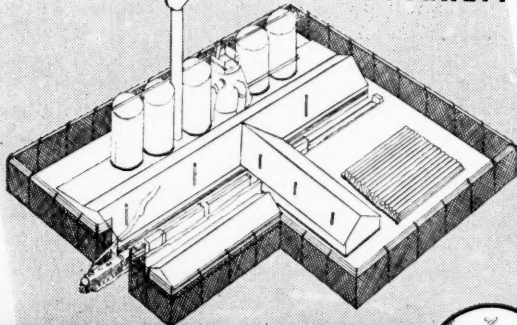
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THE RUBEROID CO., EXECUTIVE OFFICES: 500 FIFTH AVE., NEW YORK CITY

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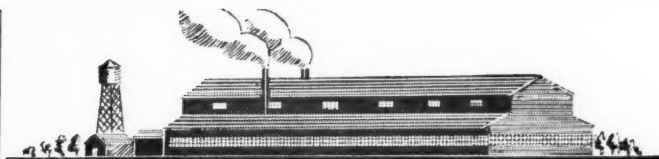


In case of trouble in the neighborhood, a sturdy enclosure of Pittsburgh Chain-Link Fence around your plant is your best insurance against damage. Pittsburgh Fence is made to withstand the hard knocks of everyday accidents. Send us your blue prints for an estimate of cost of fencing your property. No obligation.

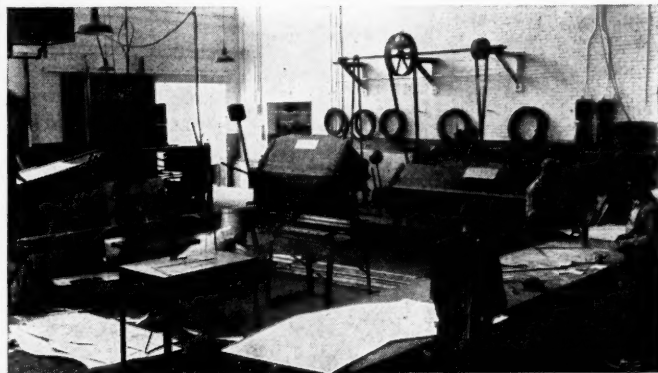
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Fence**

**PITTSBURGH
STEEL CO.**

753 UNION TRUST BLDG. PITTSBURGH - PENNA.



SHOPS TO SERVE YOU



STOCKS TO SUPPLY YOU

When you need sheet metal replacements or new work, remember the INGOT IRON Shop Man in your locality. He uses Armco Sheet Metals—INGOT IRON for rust-resistance and Armco Steel for ordinary work—and is well known for his skill, experience and all-round good craftsmanship.

You can't go wrong when you call in the INGOT IRON Shop Man, either in choice of sheet metals or serviceability of the finished job.

Working hand in hand with your sheet metal contractor is the Armco Distributor. He not only supplies the shop with good iron and steel sheets, but he also can serve your needs for regularly-used sheet grades. Among these are Armco galvanized INGOT IRON, steel or copper-bearing steel sheets, hot-rolled and hot-rolled annealed sheets, and stainless steel sheets, plates, and strip.

For satisfactory sheet metal work see the local INGOT IRON Shop Man. For prompt deliveries of iron and steel sheets, give the nearby Armco Distributor a ring. If you don't know him, write.

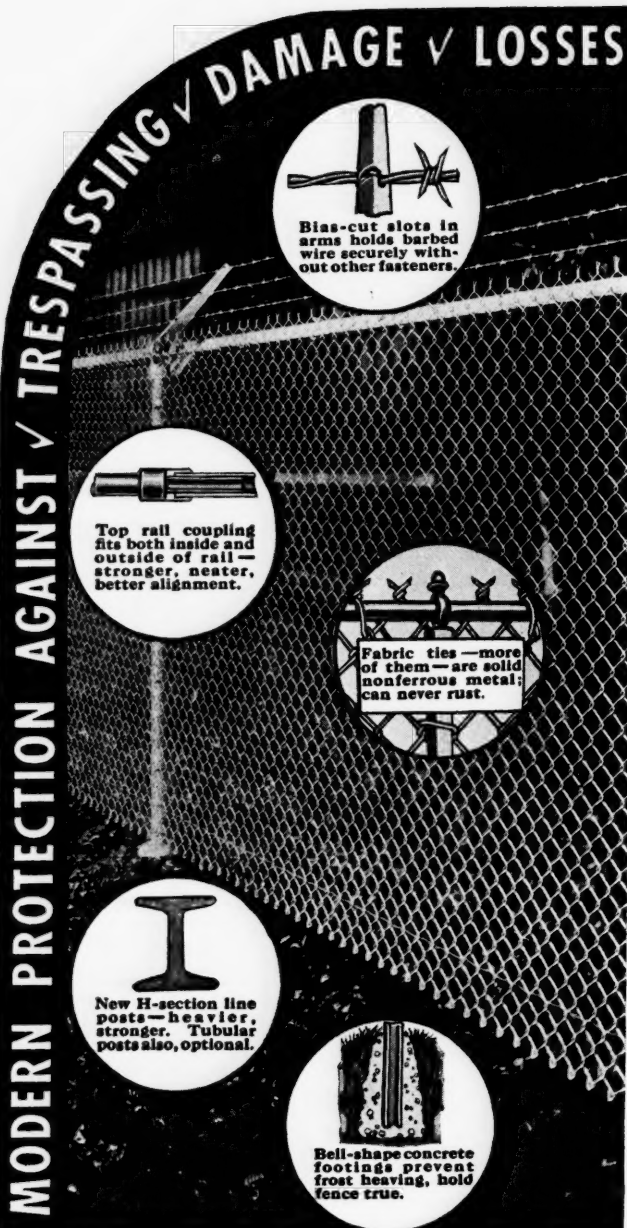


The American Rolling Mill Co.

Middletown, Ohio

IRON AND STEEL SHEETS FOR EVERY REQUIREMENT

MODERN PROTECTION AGAINST TRESPASSING ✓ DAMAGE ✓ LOSSES



Bias-cut slots in arms holds barbed wire securely without other fasteners.

Top rail coupling fits both inside and outside of rail—stronger, neater, better alignment.

Fabric ties—more of them—are solid nonferrous metal; can never rust.

New H-section line posts—heavier, stronger. Tubular posts also, optional.

Bell-shape concrete footings prevent frost heaving, hold fence true.

★ TR. MRK. REG. U. S. PAT. OFF.

● The modern features of Continental Chain-Link fence include: Wire heat-treated for tensile strength and greater resilience under shock... our own special-analysis open-hearth steel heavy coated with alloyed zinc, tension-locked pins to hold fabric, beveled edge tension and brace bands... pivot type gate hinges... full-height, triple-locking gate fasteners. Designed by engineers and erected by experts for longer and better service at lower annual cost.

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LIFETIME PROPERTY PROTECTION

Mail coupon today for full information on all modern features; styles, heights, etc., for all conditions. For analysis and estimate by fence engineers, check here ☐

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at Canton, Kokomo, and Indianapolis.

Get Analysis and
Estimate from Con-
struction Engineers

No Obligation

Also Valuable
Manual on Prop-
erty Protection

ARE YOU AWARE THAT

TEN PER CENT of carbon dioxide, used as a refrigerant, will increase by 100 per cent the length of time beef can be stored. Australia is proving this in using gas refrigeration to preserve beef shipments to England.

THE UNIVERSITY OF IOWA has developed a new process for the manufacture of inositol from water in which corn is soaked in corn starch manufacture. Claims are made that when processed with nitric acid the substance becomes more powerful as an explosive than nitro-glycerine. By the method used the price descends from \$400 a pound to \$1 a pound or less.

LOSS AND DAMAGE freight claims on Class I American railroads were reduced in 1934 to less than \$16,250,000. They amounted to nearly \$120,000,000 in 1920.

RESIDENCE building increased in the last half of 1935 two and a half times over the same period in 1934. It is expected by lumber manufacturers to help in bringing lumber consumption back to 1930 production, which was 25 billion feet.

THE INTERNATIONAL PETROLEUM EXPOSITION at Tulsa, Okla., in May, will have \$10,000,000 worth of exhibits on 15 acres of display space. Guns for "shooting" oil well casings will be displayed. They have been employed profitably on wells thought to have been dry and have brought in wells flowing to 25 barrels or more per day in some cases.

GASOLINE TAX collections over the past ten years show that gasoline tax rates have risen nearly 22 per cent a year on an average. Continuing for ten more years, the average annual gasoline tax bill of American motorists will amount to \$374 each.

GLASS can now be drawn into a single strand one-twentieth the diameter of human hair. It opens wide possibilities for the use of fibrous glass in industry.

GERMANY makes artificial cotton, wool, rubber, camphor, dyes and fertilizers. Italy makes wool from skimmed milk.

BERLIN reports the invention of a gas, packed in cloth sacks, to exterminate rodents, insects, weevils and other pests.

PAINT in stick form for marking purposes, which won't dry until used and then won't run, is a recent achievement.

THE TOTAL estimated cost of nine utility projects undertaken by the government is more than \$800,000,000. The sites are scattered from California to Maine, and from the state of Washington to the Tennessee Valley.

MOTOR VEHICLE owners contributed to special automotive taxes, paid in addition to regular taxes, more than 14 per cent of all state and local tax revenue. These special automotive taxes have increased nearly 160 per cent in the last ten years.

THE FEDERAL deficit last year amounted to \$3,250,000,000. To balance it, if the Federal government had taken one-half of incomes amounting to \$5,000 a year or more, the resulting increase in revenue would have amounted to only \$2,500,000,000. If all the incomes over \$10,000 a year or more had been taken, there still would have been a \$200,000,000 shortage. Sixty per cent of the net income of the American people is received by those earning less than \$5,000.

MANUFACTURERS RECORD FOR

IN NEW HOUSE construction there is a swing back from apartments to houses of the single-family type. There has likewise grown a demand for more land surrounding such dwellings. An average of 7,000 square feet is now desired instead of 4,000 and 5,000 square feet twenty-five years ago.

A RECORD was made in the sale of large and miniature incandescent lamps in 1935. Preliminary estimates show an increase of more than 11 per cent including 410,000,000 large and 297,000,000 miniature lamps.

A FOUR-FOLD increase in national public works has apparently taken care of less than 6 per cent of the unemployment problem. This is stated by Noel Sargent, Secretary of the National Association of Manufacturers. The reason assigned is that increased national expenditures are offset by decreased expenditures in states, counties and cities.

MORE LIFE INSURANCE money goes to living policyholders than to beneficiaries of dead ones. A generation ago business-reverse insurance, education insurance and similar modern types were little known. America is the best insured country in the world.

CHAIN retail stores have been singled out for special taxes. In the last eight years more than half the states have enacted class taxes of one kind or another. Some have been upheld by the courts—others declared unconstitutional. But the result of all is to charge the cost to the consumer.

BRAKES that adjust themselves as wear takes place are reported as a recent invention in England. It is said that wear is automatically taken up and a constant clearance maintained. The apparatus adjusts itself to wear of as little as .00003 of an inch in the linings.

POST OFFICES in the United States now number in excess of 46,000. There are about 230,000 civil service employees in addition to thousands of contractual employees. The Post Office Department handles 4,500,000,000 pounds of mail a year and issues almost 200,000,000 money orders annually. Postal saving deposits amount to \$1,200,000,000 and the postal revenue was approximately \$600,000,000 for the last fiscal year which was an increase of \$44,000,000 over the previous year, the greater proportion of the gain being in towns and rural communities.

STEEL in use throughout the world is estimated at 1,200,000,000 tons of which 700,000,000 tons, or about 59 per cent, is in use in the United States.

JAPAN, in addition to its new dominance as a manufacturer of cotton goods, is rapidly expanding its rayon industry. Production increased 45 per cent last year, reaching a new high of about 220,000,000 pounds in 1935.

THERE ARE 2369 AIRPORTS and landing fields in the United States. Six states—California, Texas, Michigan, Pennsylvania, Florida and Ohio—have each more than 100. (Figures taken from Department of Commerce report.)

THE RESULT OF a survey by the National Tool Builders' Association is that the tangible evidence of current business revival in all parts of the country is an expansion and re-equipment program by industry that will possibly involve expenditures of more than 900 million dollars.

GERMANY HAS large deposits of lignite, but limited supplies of gas coal. The U. S. Department of Commerce says that a German engineer has a process to extract 20 to 30 per cent more illuminating gas of high heat value from lignite than from the same quantity of ordinary gas coal and at less cost.

STRUCTURES THAT ENDURE



Salt treated sub-flooring laid on Creosoted stringers and nailing strips, each treated by our Pressure Process.

Statistics show that Wood, when used Untreated, is subject to deterioration through Dry Rot and Insect attack, resulting in costly Replacements and Repairs.

Eliminate the need for these expensive Replacements and Repairs by the use of Structural Timbers preservatively treated by our Pressure Processes with Standard, approved chemicals. Treated Wood has many times the life of Untreated Timbers and will give a lifetime of satisfaction with low maintenance costs.

Our Pressure Treating Plants are conveniently located to promptly serve you at advantageous freight rates.

Detailed Information, Prices and, if necessary, the services of one of our Engineers may be had without cost to you, by writing our territory Sales Office or communicating direct with

THE WOOD PRESERVING CORPORATION

Koppers Building

Pittsburgh, Pa.

AYER & LORD DIVISION

CENTURY DIVISION

Affiliate

NATIONAL LUMBER & CREOSOTING CO.

SALES OFFICES

Baltimore, Md. . . Boston, Mass. . . Charleston, S. C. . . Chicago, Ill.
Columbia Park, O. . . Denver, Colorado . . Houston, Texas . . Kansas
City, Mo. . . Marietta, O. . . Memphis, Tenn. . . Montgomery, Ala.
New York, N. Y. . . Newport, Del. . . Philadelphia, Pa. . . Pittsburgh, Pa.
Reed City, Mich. . . St. Louis, Mo. . . Superior, Wis. . . Texarkana, Ark.-Tex.

Rayon Industry Expands

South's Productive Capacity 70 Per Cent Of Nation's Plants

EXPANSION of production and consumption of rayon to record high levels during 1935 is of particular interest to the Southern States since development in recent years of rayon manufacturing has largely centered here. The South now has approximately 70 per cent of the nation's rayon producing capacity.

Nationally and internationally known corporations established the Southern plants because of the plentiful supply of competent labor; the availability of cheap power and efficient, low cost fuels; nearness to raw materials; adequate transportation facilities, and strategic locations relative to the steadily expanding consumers—textile and fabric mills, with 60 per cent of the nation's productive capacity.

Last year these rayon firms invested heavily in expanding the output of Southern units, installing newly developed machinery calculated to cut production costs, enlarging and improving power plants and building entirely new units. New construction work now under way and proposed is of substantial volume.

Rayon is produced in Southern plants by every commercially successful process. Some plants use several different processes.

Hand in hand with increased production of rayon in Southern plants, goes the growing use of rayon in Southern textile mills. Manufacturers of hosiery, underwear, outerwear and other knit goods and specialties in the South last year increased their takings.

Rayon producing plants are located in six Southern States, Virginia and Tennessee each boast four major plants, North Carolina, Maryland, West Virginia and Georgia each have one rayon plant.

Southern Plants At Scattered Points

The DuPont Rayon Co., of Buffalo, N. Y., has three Southern plants, at each of which notable improvements are under way. They are located at Richmond, (Spruance), and Waynesboro, Va., and at Old Hickory near Nashville, Tenn.

The Viscose Co., New York City, through its subsidiary, the Viscose Corporation of Virginia, operates the world's largest rayon plant at Roanoke. Another Viscose Co. plant is in Parkersburg, W. Va.

The Industrial Rayon Corporation of Virginia, controlled by Cleveland, Ohio, interests, operates at Covington.

The American Glanzstoff Corporation and the American Bemberg Corporation have plants in Elizabethton, Tenn., while the Tennessee Eastman Corporation operates a unit at Kingsport, Tenn. The Maryland plant at Amcelle is that of the Celanese Corporation of America; the Georgia unit, of the Tubize Chatillon Corporation is at Rome, and the North Carolina plant, the American Enka Corporation is located at Enka.

World Output Up

THE rayon industry continued to register sharp gains in the United States as well as in other rayon producing countries during 1935 to set new high record production figures, according to the Textile Economics Bureau.

The output of rayon in the United States in 1935 aggregated 256,659,000 pounds, an all-time high record, and an increase of 48,163,000 pounds, or 23 per cent compared with the 1934 output of 208,496,000 pounds.

Domestic production of viscose plus "cuprammonium" yarn totaled 200,800,000 pounds in 1935, an increase of 18 per cent over the 1934 output, whereas acetate yarn output amounted to 55,859,000 pounds, an increase of 47 per cent.

While the United States reported a healthy gain in 1935, the proportion of our output to the world's total was practically unchanged. The 1935 world production of rayon is estimated at 950,000,000 pounds, as compared with 775,000,000 pounds in 1934, an increase of 22 per cent.

Japan, Great Britain, Germany and Italy show very substantial increases. Japanese output is estimated at 215,000,000 pounds against 153,000,000 pounds in 1934, an increase of 40 per cent.

Domestic Consumption

THE record production figures were made, it is pointed out, with a sizable part of the installed capacity idle to prevent over-production.

Domestic consumption also established a new record last year, totaling 251,722,000 pounds, a gain of 29 per cent compared with the 1934 consumption of 194,808,000 pounds.

In five years both domestic production and consumption of rayon have more than doubled. The 1930 production in this country was 127,333,000 pounds against 256,659,000 pounds last year; consumption in 1930 ran to 117,968,000 pounds, compared with 251,722,000 pounds consumed last year.

Launches Institutional Advertising Campaign

Pittsburgh Plate Glass Company's Largest Advertising Budget To Feature Combined Products

WITH the adoption of the 1936 advertising budget, calling for a record-high outlay, the Pittsburgh Plate Glass Company, of Pittsburgh, Pa., inaugurated an institutional or combined product advertising campaign. Until now all advertising of the company has been departmentalized, featuring particular brands of paint and glass.

The broader program, featuring the extensive service facilities of the company, it is felt, will give the specific brand advertising more weight.

Basically, the new institutional program is designed to accomplish two objectives: First, to impress upon the public the fact that the Pittsburgh Plate Glass Company manufactures other products besides glass; second, to show the relationship between the company's principal products—paint and glass.

Approximately two-thirds of the institutional advertising budget will be expended through the medium of radio. In February, a series of weekly half-hour concerts by the Pittsburgh Symphony Orchestra, under the direction of Antonio Modarelli, will open over the NBC Blue Network, selected with a view to typifying the light and color imparted to the home by Pittsburgh Plate Glass products.

Supporting the radio programs will be an aggressive magazine campaign directed to those most interested in the uses of paint and glass—the home owner.

Following up advantages gained by previous advertising, the company will continue to advertise in national publications the five products made by the Glass Division which lend themselves best to this type of promotion, namely: Carrara Structural Glass, Duplate Safety Glass, Pitteco Store Front Metal, Pennvernion Window Glass and Pitteco Storefront Construction.

The paint department will continue its advertising campaign through the use of home magazines.

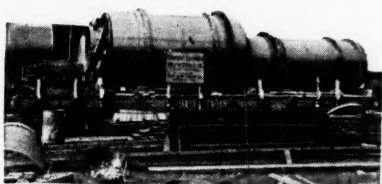
Other campaigns planned include: Maintenance Department, Industrial Sales Department and the Brush Division.

Freight Movements Gain

Freight car requirements in the Southern states in the first quarter of this year will show an increase of nearly 10 per cent, compared with the like period of 1935, the quarterly forecast of the Regional Shippers' Advisory Boards reveals.

SOUTHLAND PRODUCTS

—WELDED OR RIVETED—



We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

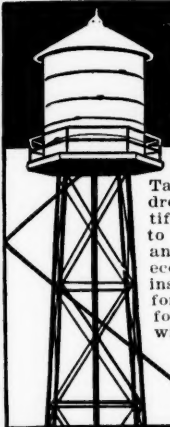
**WELDED
OR RIVETED
CONSTRUCTION**

This applies to field as well as shop built equipment.

Write us for information and quotations.

CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

DAVIS CYPRESS WATER TANKS



It's no unusual fact for a Davis Tank to last 25 to 35 years, as hundreds of southern industrial plants can testify. Cypress need only be outside-painted to last indefinitely; keeps water cool and sweet, and when Davis-built represents a major economy in equipment cost, either inside or outside the plant. Ask for estimates—any size, shape, for any purpose. Our new catalog will also be mailed on request.

G. M. DAVIS & SON
P. O. Box 5
Palatka, Fla.



STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breechings	Dryers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Still
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

LANCASTER IRON WORKS
LANCASTER, PA.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY
604 Columbia Avenue Darby, Pennsylvania

BELMONT IRON WORKS

PHILADELPHIA NEW YORK EDDYSTONE

Southern Sales Offices, Charlotte, N. C.

Engineers . Contractors . Exporters

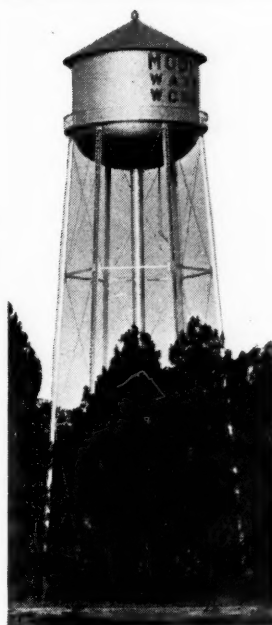
**STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED**

**BELMONT INTERLOCKING
CHANNEL FLOOR**

Write for Catalogue

Main Office—Philadelphia, Pa.
New York Office—44 Whitehall St.

♦ C O L E ♦



**Correct in Design
Erected**

WE are prepared to submit designs to meet any special requirements for tanks and towers whether on building, odd location or requiring auxiliary units.

COLE tanks offer very distinctive advantages in both design and workmanship. They meet the exacting requirements of all insurance authorities.

Our Engineering Department with an experience of 56 years will be glad to co-operate with you.

Cole Elevated Tank erected for
Mobile Water Works.



R. D. COLE MANUFACTURING CO.
Established 1854
NEWNAN, GA.

Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.

Rialto Bldg.

Kansas City, Mo.

Filtration and Pumping Equipment

**For Water Works and Swimming Pools
Sales and Installation**

BURFORD, HALL AND SMITH

140 Edgewood Avenue, N. E.,
Atlanta, Georgia

GLAMORGAN

PIPE & FOUNDRY CO.

LYNCHBURG, VA.

Manufacturers of

Cast Iron Pipe and Fittings
For Water and Gas Service

INDUSTRIAL NEWS

Cold Storage Ice Plant Offered

W. L. Joyce, attorney for the First National Bank and T. J. George, Stuart, Va., will offer at public auction on February 22 at the Courthouse at Stuart, the cold storage, ice plant and equipment therein, known as the Stuart Storage and Sales Corporation. In the heart of one of the largest fruit-growing sections of Virginia, the plant is fully equipped, with storage for 10,000 to 12,000 barrels. At the same time and place, the building and lot will also be offered.

Page Steel and Wire Representative

The Page Steel and Wire Division of American Chain Company, Inc., Bridgeport, Conn., announces the appointment of Southern Steel Works Company, Birmingham, Ala., as a representative for handling their products, including Chain Link Fencing, which is widely distributed throughout the South. R. J. Teeple, Southern district sales manager of the Page Steel and Wire Division, is located at 1011 Healey Building, Atlanta, Ga.

Missouri Cement Plant Wins Safety Trophy

Celebrating the Mark Twain centennial at Hannibal, Mo., with a perfect safety record in 1935, the Hannibal plant of the Universal Atlas Cement Company, Chicago, was one of the company's four plants to win the Portland Cement Association safety trophy last year. Leeds (Birmingham), Ala.; Independence, Kans.; and Universal (Pittsburgh) were the company's other plants awarded the trophy in 1935. The Birmingham plant has achieved a perfect year on three occasions.

Petroleum Industry Survey

The American Petroleum Institute, New York City, announces the publication of a volume under the title of "American Petroleum Industry," broadly surveying all branches of this industry. The present position of the industry and its future outlook are treated by a committee of the industry's experts in separate chapters on future demand, production, transportation, refining, marketing, taxation, and labor. Adequacy of petroleum supplies is treated in chapters prepared by a committee composed of present and past presidents of the American Association of Petroleum Geologists and progress since 1912 is reviewed in detail.

Firestone Air Spring

A new principle of automobile suspension, providing for rubber springs inflated with air, was introduced to members of the Society of Automotive Engineers by R. W. Brown, research engineer of the Firestone Tire and Rubber Company, Akron, Ohio, who is the inventor. The Firestone Air Spring consists of an especially developed rubberized fabric bellows which is inflated with air to carry any desired load. The bellows operates automatically in conjunction with an air reservoir by means of a pendulum shock absorption valve. Advantages claimed for the Air Spring are: Easier riding, elimination of body roll when rounding corners at high speed, remarkable new shock absorption control which erases the effect of road irregularities on passengers and provides facilities for controlling the softness of riding quality.

(Continued on page 54)

**PROFIT BY OTHERS MISTAKES
AND TAKE ADVANTAGE OF**

UNDERWRITERS APPROVED FIRE PROTECTION

That there are many real advantages in addition to the large insurance saving, is shown by installations already made in practically every type of business house, factory and residence. INQUIRIES are invited on your fire protection needs.



**JONES
AUTOMATIC SPRINKLER CO.**

FIRE PROTECTION

BOX 28,

PLAINS, GA.,

For Sale

*Farm and graz-
ing lands at points
on the--*

East Coast of Florida

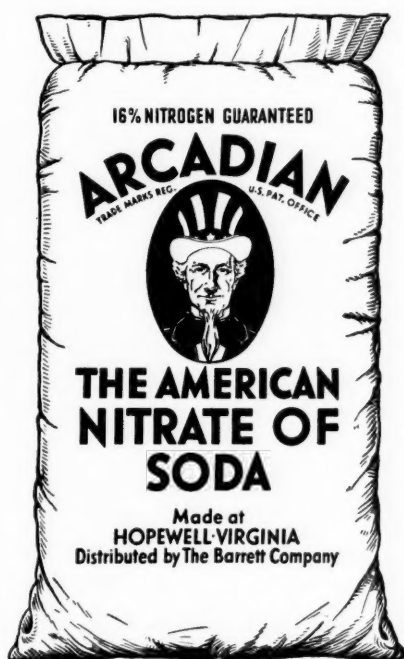
For Information and Literature

Write

Model Land Company

Flagler System

St. Augustine, Florida



TO hundreds of thousands of farmers this bag stands for the highest quality nitrate of soda.

To the American chemical profession this bag is the symbol of one of its greatest accomplishments.

To all Americans it represents a vital product for which our nation is now independent of any foreign source, in Peace and in War.

The *Barrett* Company

40 RECTOR STREET, NEW YORK, N. Y.

HOPEWELL, VA.

JACKSON, MISS.

RALEIGH, N. C.

ATLANTA, GA.

COLUMBIA, S. C.



FOR Paint, Varnish & Lacquer

Better raw materials for the paint, varnish, and lacquer industries have resulted from the extensive research facilities which Hercules Powder Company maintains for these important consumers of Hercules products. New resins, special solvents, and a new group of cellulose derivatives are among the modern materials developed for these and other industries served by Hercules.

★ **Some Hercules Products:** Cellulose Products . . . Rosin, Rosin Derivatives, Spirits of Turpentine, Pine Oil . . . Chemical Cotton . . . Paper Makers Chemicals . . . General Industrial Chemicals . . . Commercial Explosives, Sporting Powders.

★ **Some Industries Using Hercules Products:** Textile, Paper, Construction, Plastics, Metallurgical, Disinfectant, Insecticide, Paint, Varnish, Lacquer, Soap, Synthetic Fibres, Mining, Quarrying, Foundry, Ink, General Chemicals.

Send for Booklet

HERCULES POWDER COMPANY
INCORPORATED
Wilmington, Delaware

Please send booklet describing your products for.....

Name.....

Address.....

Company..... IN-39-M



INDUSTRIAL NEWS

(Continued from page 52)

Struthers-Wells Representatives

Struthers-Wells Company, Warren, Pa., manufacturers and engineers of steel and alloy steel equipment, have appointed Robbins and Robbins, 504 Howard Avenue, New Orleans, La., district representatives to cover the states of Louisiana and Mississippi.

Declares 20 Per Cent Dividend

Marking its five hundred and sixty-ninth consecutive dividend of 20 per cent or more, the American Mutual Liability Insurance Company, Boston, Mass., has declared a dividend of 20 per cent payable on all policies expiring during the period March 1 to March 31, 1936.

Eppinger & Russell Co. Promotes Vrieze

Eppinger and Russell Company, wood preservers, with treating plants at Long Island City, N. Y., and Jacksonville, Fla., announces the election of Edwin H. Vrieze, Sr., of South Jacksonville, as vice-president in charge of Southern operations of the company, whose main offices are at 81 Eighth Avenue, New York. Mr. Vrieze has been connected with the company for many years.

G-E Tennessee District

For better handling the sale and distribution of its products in the Tennessee District and to render better service, the General Electric Company, Schenectady, N. Y., has opened headquarters in Nashville. Branches are located at Chattanooga, Knoxville and Memphis. H. A. Pendergraph is district manager; T. M. Harris, district operating manager; J. G. Cason, district supply sales manager, and G. D. Adair, district appliance sales manager.

Powerful and Economical Chevrolet Truck

Announcing the "most powerful and the most economical Chevrolet trucks ever offered to truck fleet owners", Chevrolet Motor Company, Detroit, Mich., introduces a new 1936 series of 1½-ton and 1½-ton trucks. These new units are equipped with perfected hydraulic brakes and are powered with the Chevrolet high-compression valve-in-head engine, which is declared to perform under all speed and load conditions with unusual economy.

Drilling Unit With Arc-Welded Boom

Franks Manufacturing Company, Tulsa, Okla., announces a new portable oil well servicing winch which is declared to make any truck a fast and powerful unit for pulling and running rods and tubing, bailing, swabbing and drilling, and which the manufacturer claims permits serving at least three times the number of wells possible with a tractor. The unit, installed at small cost, is securely attached to the truck frame directly behind the cab, and power is taken through a motor take-off mounted on the truck propeller shaft, thus giving flexibility of speed changes afforded by the truck transmission. Pulling power of the winch is controlled by the power of the truck motor. A feature of the unit is a horizontal telescopic boom which telescopes directly out the back of the truck, the boom being arc-welded with shielded arc equipment made by The Lincoln Electric Company, Cleveland, Ohio. Arc-welding is also used in the construction of the winch drum.

Cement Coated Asphalt Shingles

Leading manufacturers of roofing material will soon announce the production of a new type of cement coated asphalt shingles, which will be known generically as "cement-top shingles." They are produced by a special processing method developed by Bakelite Building Products Company, Inc., New York City, by which conventional asphalt shingles are given an extra surface coating of special formula hydraulic cement in which mineral oxide pigments are incorporated. Production of the shingles has already been started by the following roofing manufacturers: The Johns-Manville Corp., The Ruberoid Co., McHenry-Millhouse Manufacturing Co. of New York, Inc., American Asphalt Roof Corp., Amalgamated Roofing Co., and Los Angeles Paper Manufacturing Co.

Mack Enters Low-Price Truck and Bus Field

Mack Trucks, Inc., New York City, announce their entrance in the low-price truck and bus field with a line of light Mack Jr trucks and buses in seven models, ranging from a ½-ton to a 2½-ton truck. The Jr line will also contain a short-wheelbase traffic type model. Mack Jr bus models are available in three designs, including two transit types and one conventional type, with one of the transit type models having a front-mounted engine, and the other with the engine mounted in the rear. The conventional type bus will have the engine in front. Introduction of this new line is a radical departure from the company's policy of manufacturing only heavy-duty commercial motor vehicles and climaxes 36 years of successful truck and bus building. A. J. Brosseau is president of the company.

Armco Products On Radio

The value of new porcelain enameled appliances in the home will be emphasized by "Ironmaster" chats scheduled on four Armco concert band radio programs over the N. B. C. Blue network during February and March, the broadcasts to be heard on Wednesdays at 830 P. M. Eastern Standard Time. On February 12 the program will feature kitchen ranges; February 26, refrigerators; March 4, washing machines; March 25, formed metal plumbing ware. Bennett Chapple, vice-president of The American Rolling Mill Company, Middletown, Ohio, will be the narrator, and the Armco Band will be under the direction of Conductor Frank Simon.

Book For Business Executives

Administrative Proficiency in Business, by Erwin Haskell Schell of the Massachusetts Institute of Technology, is a book for business executives "who are undertaking new responsibilities of an administrative nature." The author announces another specific aim as being "in behalf of those younger business men of promise who have early determined to prepare themselves for future industrial positions of large responsibility."

Harnischfeger Appoints Chicago Sales Manager

Harnischfeger Corporation of Milwaukee, Wis., announces the appointment of R. L. Mead as manager of its Chicago office at 20 North Wacker Drive. Mr. Mead will have charge of sales in the Chicago territory for the complete line of Harnischfeger products including excavators, cranes, hoists, welders, motors, barrel renovators and brewery equipment.

HUTTON & BOURBONNAIS CO.

HICKORY, N. C.

Industrial Crating, Box Shooks, Rough and Dressed Lumber, Oak Flooring, also Pinus Strobus Pattern Lumber, White Pine, N. C. Pine, Oak, Poplar and Chestnut.

INQUIRIES SOLICITED.

CREOSOTED TIES, PILING, POLES, POSTS, CROSS ARMS, and LUMBER

WOLMANIZED LUMBER—

Decay and Termite Proof—Can Be Painted

Docks for Ocean Vessels

American Creosote Works, Inc.

New Orleans, La.

Atlantic Creosoting Co., Inc.

Norfolk, Virginia

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.; Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.

LONG LIFE TO LUMBER!

To add from 8 to 20 times the ordinary life and service you might expect from your lumber, use only pressure-preserved woods treated with ZMA or Creosote. Eppinger & Russell Co. has, for 57 years, been treating poles, ties, posts, piling, cross arms, cross ties and other timber for the nation's leading industrial firms and utilities. Safeguard your lumber against dry rot and termites by employing this outstanding wood-treating service.

PRESSURE-TREATING PLANTS AT:

Jacksonville, Fla.

and

Long Island City, N. Y.

WOOD PRESERVERS SINCE 1878
EPPINGER & RUSSELL CO.
84 Eighth Ave., NEW YORK CITY

WOLMANIZED LUMBER

Protected from Decay or Termite attack. Clean to handle. Holds paint well. Preservative is strongly fibre fixed, non-volatile and somewhat fire retardant.

American Lumber & Treating Co.

37 W. Van Buren St., Chicago

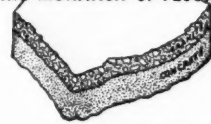
Branch Offices: New York—Boston—St. Louis
Shreveport—Los Angeles—San Francisco.

Pressure Treating Plant Service available from:

Carbondale, Ill., Charleston, S. C., Crossett, Ark., Fordyce, Ark., Franklin, Va., Franklin Park, Ill., Green Springs, W. Va., Houston, Tex., New Orleans, La., Savannah, Ga., Shreveport, La., Texarkana, Tex., Wilmington, Cal., Wauna, Ore.

VEN-ITE
THE MONARCH OF FLOORS

A.I.A.
File
No. 4-1-3



Reg. U. S. Pat. Off.

The trade name

Used to designate the best process to date of cement floor design and finishing

Are you paying 1st grade prices for a 3rd grade floor?

A safe floor makes a safe business

Ven-ite Heavy Duty Cement Floors are Guaranteed against disintegration, dusting, loose bond

Let us quote on your job

WRITE FOR CATALOGUE

VEN-ITE COMPANY Inc.

250 So. Broad St., Philadelphia, Pa.



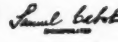
Kanawha City Development, Charleston, W. Va. Architects, Warno, Tucker & Silling, Charleston. Walls painted with Cabot's DOUBLE-WHITE COLLOPAKES, shutters with Cabot's Gloss Collopakes; roof stained with Cabot's Creosote Shingle Stains.

Easy To Sell

The sparkling crisp colors of Cabot's Collopakes (the modern paints) and Cabot's Stains make the houses in any development easier to sell. Their long life and economical upkeep invariably make friends for the builder. For further information, sign and mail coupon below.

Cabot's

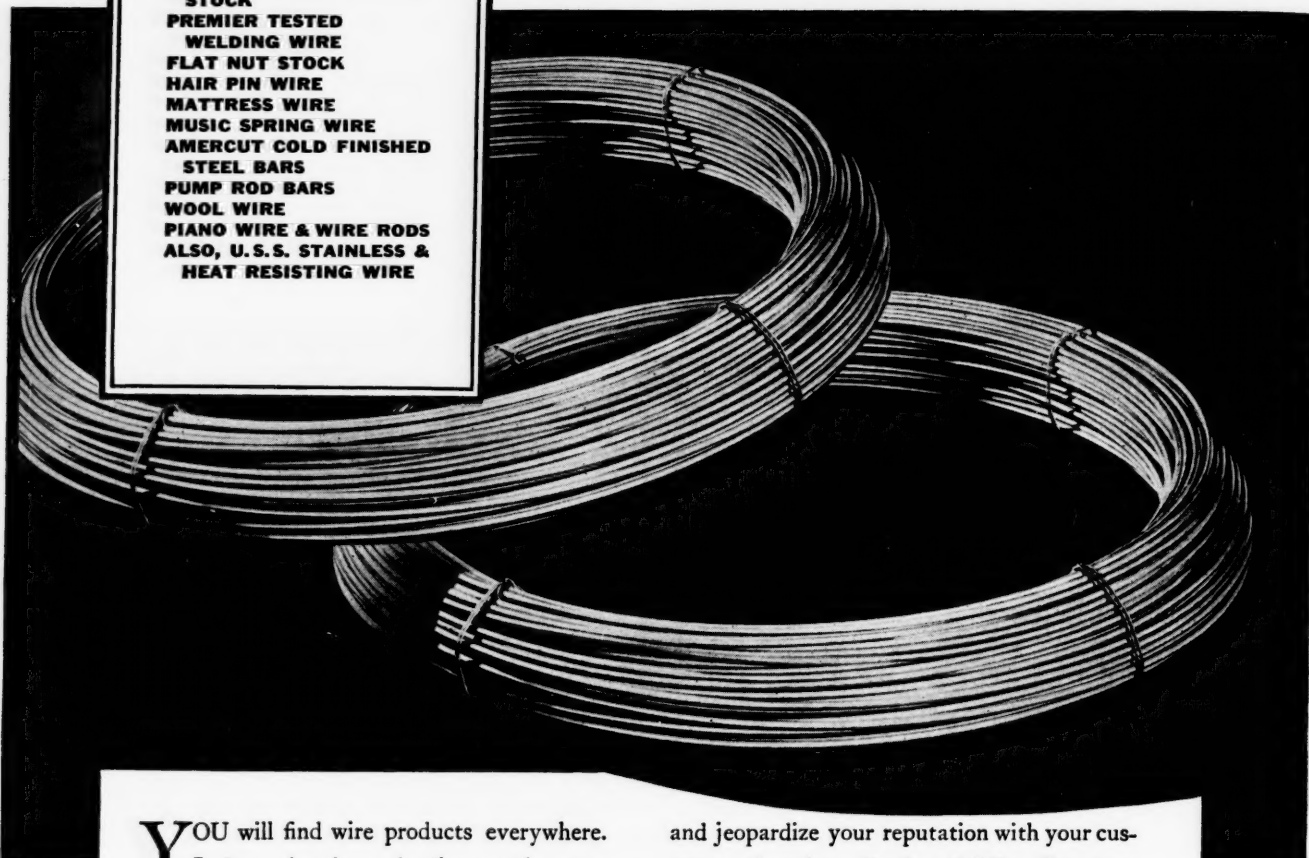
Stains and Collopakes

	
Samuel Cabot, Inc., 141 Milk St., Boston, Mass.	
Gentlemen: Please send me further information on <input type="checkbox"/> Cabot's Collopakes; <input type="checkbox"/> Cabot's Stains.	
Name _____	_____
Address _____	MR-2-36



PREMIER SPRING WIRE
WEAVING WIRE
PIN WIRE
BOLT, RIVET AND SCREW
WIRE
BROOM AND BRUSH WIRE
PINION WIRE
BASIC & BESSEMER SCREW
STOCK
PREMIER TESTED
WELDING WIRE
FLAT NUT STOCK
HAIR PIN WIRE
MATTRESS WIRE
MUSIC SPRING WIRE
AMERCUT COLD FINISHED
STEEL BARS
PUMP ROD BARS
WOOL WIRE
PIANO WIRE & WIRE RODS
ALSO, U. S. S. STAINLESS &
HEAT RESISTING WIRE

TO MAKE 1000's of PRODUCTS



YOU will find wire products everywhere. In fact, wire plays a leading part in many industries . . . from the paper clip to piano wire. Whatever the requirement—American Quality Wire can satisfy it. There are more than a hundred years of experience back of it.

Next to quality, service is the factor that should govern the choice of a source of supply. Delays are costly—ruin production schedules

and jeopardize your reputation with your customer. American Steel and Wire Company offers you an unfailing source of supply.

One other point! No less important than "on time" delivery is shipment according to specification. The mills supplying American Quality Wire are strategically placed to give you the sort of attention that guarantees delivery according to your schedule.



AMERICAN STEEL & WIRE COMPANY
208 So. La Salle Street, Chicago Empire State Bldg., New York

Pacific Coast Distributors: Columbia Steel Company, San Francisco
Export Distributors: United States Steel Products Company, New York

United States Steel Corporation Subsidiaries

UNITED STATES STEEL



**LOOK WHAT'S IN
IT! IT MUST
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FILLS MANY CONTRACTS FOR THE SOUTH

THE strides being made in industrial development, municipal improvements and utilities expansion in the Southern States are reflected in numerous contracts, calling for storage tanks and allied equipment in wide variety, recently filled and in course of fulfillment by the Chicago Bridge & Iron Works, of Chicago, Ill., with Southern plant at Birmingham, Ala.

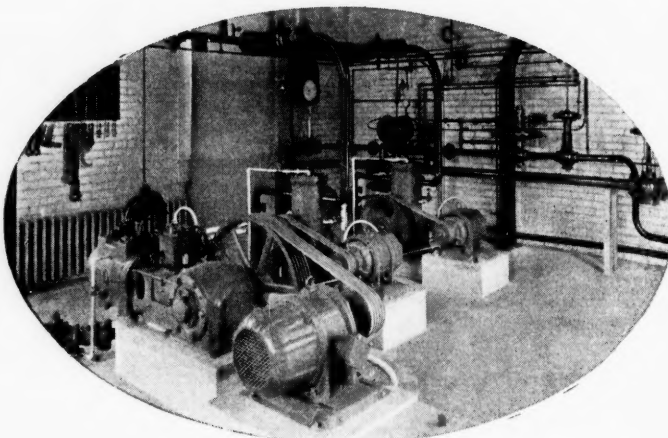
So it is that products of the company are going into new and expanding oil refineries, liquid storage terminals, timber-treating plants, industrial enterprises generally, privately and publicly-financed utilities, gas plants, and even in rice mills in conjunction with equipment designed to curb insect-infestation.

Some recently completed jobs, details of which are presented herewith, give some idea of the ramifications of activities of the Chicago Bridge & Iron Works and reveal the diversity of types of installations, and the extent of the company's operations, scattered as the projects are from Maryland to Texas.

Erection of a 50,000-gallon elevated tank, 125 feet to the bottom, at the U. S. Tobacco Company's snuff plant in Nashville, Tenn., enabled the company to secure a lower insurance rate. At the permanent construction camp, set up at Pickwick Landing—one of the storage dams for TVA—a 50,000 gallon elevated tank supplies water for domestic service and fire protection.

Many tanks of various types were built by the Chicago Bridge & Iron Works at the \$5,000,000 refinery of the Pan-American Petroleum & Transport Co. subsidiary near Texas City, Tex., the capacity of which is now being doubled. Some of the tanks are equipped with

Interior view of Troy, Ala., plant showing mixing apparatus and compressor units.



Wiggins pontoon roofs or breather roofs to reduce evaporation losses.

A dual-service tank—so arranged that 50,000 gallons of the 60,000-gallon capacity is reserved for fire protection at all times, while the remainder of the tank capacity provides water under gravity pressure for general use—was recently built for the Continental Turpentine Co. at Laurel, Miss.

An interesting job completed last year by the Birmingham shops provided a Guardite treating chamber for the Southern Rice Sales Corporation at Houston, Texas.

A radial cone tank capacity 1,000,000-gallons, in the water works system at Rocky Mount, N. C., facilitates economical pumping, provides a greater volume of storage at a central point and increases the static head in the distribution system. It is similar in size and design to an earlier installation at Thomasville, N. C., except that the latter is 15 feet higher to the bottom. The Rocky Mount tank is 88 feet in diameter, 100 feet to the bottom, and the range

in head between the upper and lower water levels, due to the design of the tank, is only 24½ feet.

Assisted by Federal loans and grants a number of municipalities have recently installed butane gas plants and distribution systems. A typical installation is that at Andalusia, Ala.—a city of 5,200 people, heretofore without gas service. Butane gas is made by mixing liquid butane with air, producing a gas with a 530 b. t. u. heating content.

The Andalusia plant has a capacity of 6000 cu. ft. an hour. It consists of a small brick building housing the mixing apparatus and two welded storage tanks,—one for liquid, which is received in tank cars and one for gas under pressure.

Designed by Charles A. McKeand & Associates, Troy, Ala., and operated by the gas department of the city under the direction of G. B. Sheppard, the equipment was installed by Algernon Blair, Montgomery, Ala.

The distribution system consists of 11 miles of cast iron main, ranging from 2 to 6 inches in diameter. Each service is provided with a regulator which reduces the gas pressure to about one-quarter pound per square inch at the appliances.

The liquid storage tank at Andalusia is 8 feet in diameter and 43 feet 8 inches long, while the liquid storage tank measures 10 feet in diameter and 47½ feet long.

A similar municipal butane gas plant was built at Troy, the general contractors being Christie, Hutchinson & Burton Co., Birmingham, Ala.

Chicago Bridge & Iron Works furnished the tanks for each.



Above—Municipal butane gas plant at Andalusia, Ala., showing a liquid storage tank and a gas storage tank. A reserve supply of 18,000 cu. ft. is held at 75 lb. per sq. in. pressure.

Right—General view showing tanks for various types of service at the Texas City Refinery of the Pan-American Petroleum and Transport Co. Some of these are equipped with Wiggins pontoon breather or lifter roofs to cut evaporation loss.



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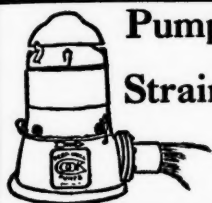
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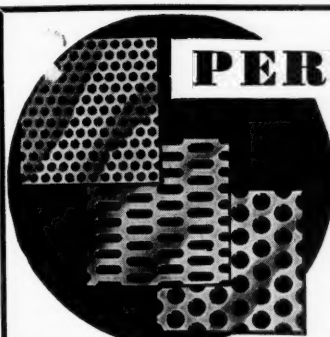
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Traveling South

(Continued from page 26)

engineer, and a large size baggage compartment, in one corner of which the air conditioning unit is placed.

The white passenger compartment, immediately behind the baggage section, seats 38 persons. An entry vestibule separates the white and colored sections, seats being provided for 19 in the latter.

Deluxe, individual type seats, deeply upholstered in genuine leather, provided with arm rests and individual head

rests, add to the comfort of passengers. The interior color scheme is in pleasing tones of green, with a cream ceiling, designed to contribute to an atmosphere of rest and relaxation while traveling. Chromium plated fittings enhance the general attractiveness of the interior. The entire floor is covered with Armstrong linoleum.

The coaches are equipped with mechanical air-conditioning units, designed to circulate pure, filtered air at comfortably cool temperatures in warm weather. In cold weather the coaches are heated by electric fans forcing air through Kysor hot water units.

Adds Twelve Buses To Fleet

WITH railroads in the South making strides in recapturing passenger traffic, motor bus lines are endeavoring to retain and extend their hold on this business. So it is, that leaders in the field of inter-city transportation via highways are investing heavily in the latest offerings of manufacturers of motor buses.

Designed primarily for high speed with safety, the new buses are replete with facilities for the convenience and comfort of passengers.

Established motor bus lines and rail lines, using buses in supplemental service, are replacing equipment considered obsolete on the basis of present-day requirements, although the age of some units being retired from service is recorded in months rather than years. At the same time schedules are being improved and new routes added.

TWELVE streamlined buses, representing an investment of \$125,000, were delivered under their own power to the Florida Motor Lines, Jacksonville, last month by drivers of the White Motor Co., Cleveland, Ohio.

Each coach is of 33-passenger capacity. Seats—with individual air-cushioned head rests—provide unobstructed view of the landscape and may be made into reclining chairs. The buses are equipped with no-draft ventilation, dual-electric fans, thermos ice-water coolers, and sanitary drinking units for comfort in warm weather. For cold weather they are equipped with the dual system of circulating hot water heaters, the radiators of which derive heat entirely from circulating hot water, so designed that no heat or fumes from the exhausts of the motor reaches the interior of the passenger compartment.

The buses are Model 54-A Whites, with bodies constructed by the Bender Body Co., Cleveland. Special equipment in-

cludes Gruse air-shocks; Karpen chairs; United States Royal tires; Leece-Neville electrical units; Westinghouse air brakes; Edwards sliding sash, and shatter-proof window glass.

The addition of the 12 new units to the already large fleet of Florida motor lines was made with a view to maintaining improved service throughout the state.

To insure the best possible service, the company is steadily adding to its fleet, as a result of which P. G. Howe, president of the company, reports the number of passengers transported in 1935 exceeded those of any year since 1929.

Two limited runs between Jacksonville and Miami operate on a schedule of 8 hours and 55 minutes for the 360 miles, which is an average of 40 miles per hour, and is said to be the fastest regularly maintained motor bus schedule in the United States.

With the new equipment the lines expect to operate 25 per cent more mileage this year than last, T. B. O'Steen, traffic manager, declares, bringing the total mileage for this year up to about 5,500,000.

Modern Buses for Florida

One of fleet of 12 new units placed in service by Florida Motor Lines



Industrial Expansion In Louisville Continues

Notable Advance In 1935 Followed By Receipt Recently of Record Number of Inquiries

Louisville, Ky.—Eighteen new manufacturing plants were established in this city during 1935, and improved and expanded facilities were provided at 61 older factories, Frank B. Ayres, secretary-manager of the Louisville Industrial Foundation, reports. Regular employment was thus provided for 937 additional workers, of whom 653 are male.

New capital invested totaled over \$1,650,000. Additional floor space occupied amounted to 2,464,000 square feet. The cost of new facilities provided at the 61 existing establishments aggregates \$2,473,000. Louisville's annual factory production was increased by these developments by \$13,000,000.

The products of the new industries included such widely diversified items as candy, awnings, tarpaulins, men's ties, millwork, paints, cosmetics, store fixtures, tailors' trimmings, ice cream, cheese, fuse plugs, burial caskets, incubators and metal roofing.

The Foundation has recently received more inquiries, from reputable manufacturers interested in expanding their operations, than were developed during the preceding two years.

Baltimore Maintains Industrial Expansion

New and Improved Plants Last Year Represented Investment of Over \$11,000,000

Baltimore acquired 49 new industries during 1935, Adam J. Hazlett, president of the Baltimore Association of Commerce, reported at the annual meeting.

The Industrial Bureau of the Association also reported 71 expansions of existing manufacturing plants.

The total of new and improved industries involved a total new investment of \$11,400,000, and the addition of 3500 workers to payrolls.

Establishment during the year of nine new steamship services, and acquisition of important cargo tonnages for the port was reported by the Export and Import Bureau.

Rosin For Road Surfacing

Seeking new outlets for its naval stores, France has been conducting experiments with rosin as surfacing for roadways, reports the Chemical Division, United States Department of Commerce.

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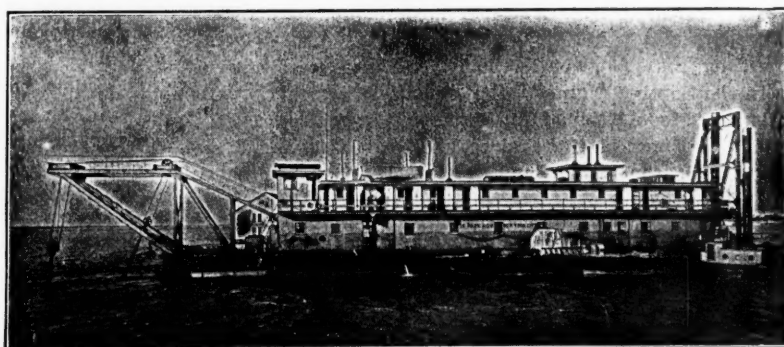
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Diesel Power

(Continued from page 23)

Florida, McCormick-Deering Diesel tractors yank trees out of the ground eliminating the laborious method of cutting them down and then sawing them up to haul away. After the trees are pulled down and out of the way by two Diesel-powered TD-40 TracTracTors, there remains a growth of scrub palmetto from 2 to 8 feet in height with roots of almost equal length, which must be removed before the land can be prepared for planting. This job is also done by tractor, most of the work being accomplished by pulling a big brush-breaker plow which effectively cuts up the heavy palmetto roots and throws them up on the surface. Roots and palmetto brush are gathered by hand, piled, and burned. The land is then gone over with a three-disk tractor plow. Fertilizer to the amount of 1,000 pounds each of lime and hardwood ash is spread by a tractor drawn lime sower over each acre. All of this work, clearing, plowing, and preparing the seed bed, has been progressing at the rate of about 1 acre a day.

Before the tractor-power method of clearing the land was adopted, it cost \$80 to \$100 an acre to clear the land and an additional \$15 for plowing and harrowing. By the new method a saving of approximately \$75 an acre has been effected. The average cost of pulling the big trees with a McCormick-Deering Diesel tractor is about \$10 an acre. The plowing and disking operations cost about \$8.50 an acre, while the hand piling and burning of roots is about \$3.50 and acre.

Diesel Fuel Burning Power Units

Model "LO" and "KO" Diesel fuel burning tractors, made by the Allis-Chalmers Manufacturing Company, Milwaukee, Wis., are employed on many large construction projects in the Southern States. Nine Allis-Chalmers "Model O's" are now at work on the new Florida-Gulf sea-level ship canal, the beginning of the construction of which was reported in the October issue of the MANUFACTURERS RECORD. These tractors employ a new, improved system of low compression engine operation, resulting in low maintenance and low fuel cost. A saving of two-thirds is said to be effected over a similar size gasoline burning unit. Diesel fuel is injected by a Diesel pump into the combustion chamber and ignited with a spark assuring quick starting. This improvement in engine design is another illustration of the advance made in the past year or two in the application of the Diesel-power principle to tractor service for increasing efficiency and reducing operating cost.

The companies mentioned manufacture

other types of internal combustion engines which are applicable to particular service installations. The Waukesha Motor Company, Waukesha, Wis., makers of Waukesha Comet Diesel engines, also produces in the group of solid injection types, the spark ignition Hesselman Oil engines. These engines, however, are not offered as a substitute for compression ignition Diesel engines, but as supplementary units. In fact, Waukesha engines are made for every fuel—natural and artificial gas, high and low octane gasoline, or a wide range of Diesel oils. Waukesha engines are used in driving tractors, road and other construction machinery, motor boats, and practically all types of industrial and farm equipment.

Small Diesel Units for Industrial, Tractor and Truck Service

In the recently announced series "DJX" Diesels, the Hercules Motors Corporation, Canton, O., is making 6-cylinder engines for industrial, tractor and truck application believed to be the smallest heavy duty Diesels manufactured in the United States. Their rated horsepower is 79 and 82.5 at engine speed of 2600 revolutions per minute, and in general design follow that developed by Hercules in their two larger "DHXB" Diesels. The smaller "DJX" Diesel series are comparable from an installation standpoint with the extensively used Hercules gasoline engines.

Diesels in Marine Service

The successful application of Diesel units in large ships, and the more recent development for motor boat service, give this type of power equipment universal recognition for economic, dependable service. Their increasing use in other transportation mediums has been slow but steady. A recent interesting installation is that of a Diesel-electric power plant of the Cooper-Bessemer Corporation, Mt. Vernon, O., operating a floating gravel crusher owned by the Kanawha Sand & Gravel Co., Parkersburg, W. Va. The floating crusher is an accessory to the dredge and eliminates the expense of taking the raw material ashore and the cost of unloading and reloading of the dredge which takes the material from the bottom of the river. After crushing, the gravel is washed, then it goes to the shaker screen where it is graded and sorted, after which it is passed to a chute into a barge for delivery to market.

Of course the use of stationary Diesel power units, large and small, in manufacturing, general industrial and utility water and light service has steadily grown in recent years. They have been a factor in making cheap, dependable power available in cities and isolated regions.

Railroad Buying Gaining

Improvement in the condition of the nation's Class I railroads is indicated by increased purchases of rolling stock, and the placing of orders for rails.

New freight cars on order on January 1, totaled 12,805, compared with 628 on January 1, 1935, and 224 on the same day of the preceding year. During 1935 the Class I carriers placed in service 8,903 new freight cars.

Forty new steam locomotives and 102 new electric locomotives were installed in 1935, compared with 59 steam and 31 electric locomotives in 1934.

Aluminum in the South

(Continued from page 21)

facilities insure excellent living conditions to those who derive employment from this activity.

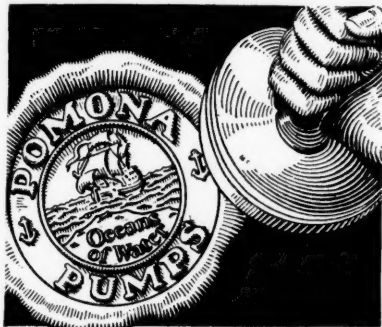
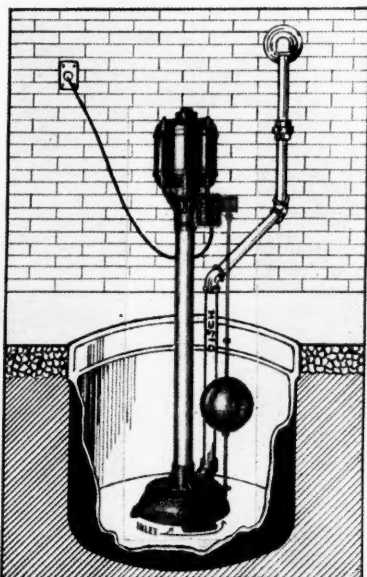
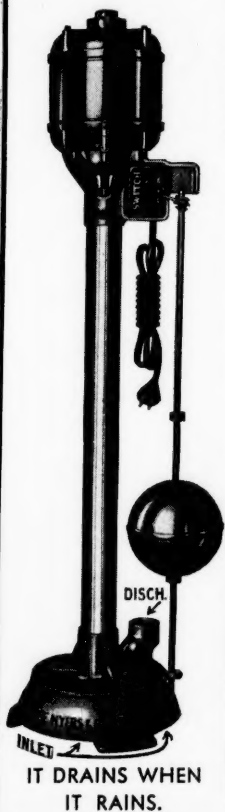
At Badin, N. C., three dams in the Yadkin River generate electrical energy consumed to produce aluminum in a large plant at Badin. The living conditions here are the equal of any in the South. At Alcoa, Tenn., is located a huge manufacturing plant, in which carbons are manufactured, aluminum produced, and aluminum sheet and plate rolled. The employees here work under splendid conditions. Their welfare is served by hospitals, swimming pools, schools and good homes. The electrical energy here employed comes from three immense dams in the Great Smoky Mountains of eastern Tennessee and western North Carolina. At East St. Louis, Ill., across the Mississippi River from St. Louis, and therefore in effect also in the South, a large plant purifies Arkansas bauxite into alumina (the oxide of aluminum).

That the aluminum industry, born as an invention by a college boy in Ohio and made a commercially successful enterprise by a group of young men in Pennsylvania, should have turned to the South to establish some of its principal activities, is happy evidence of the fact that the resources of the Southern States may confidently look forward to the time when capital or initiative, wherever it may originate, will seek them out as offering high opportunity for any industrial development for which these states are fitted. It is hardly in the realm of prophecy to say that due to the all but fantastic growth of the aluminum industry, Southern sections may be assured of great benefits in the future as the expansion of this industry goes forward. This is a foregone conclusion if the Southern States continue to encourage the growth of industry by intelligent legislative policies and a cooperative spirit on the part of the citizenship.

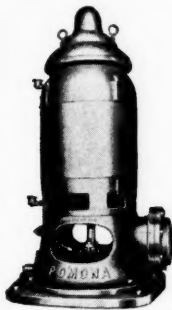
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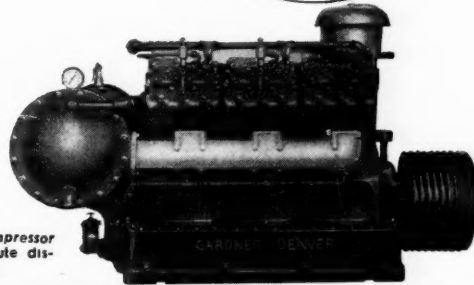
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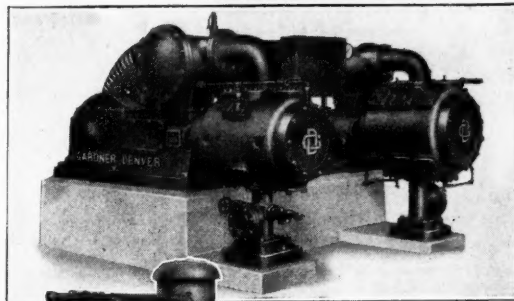
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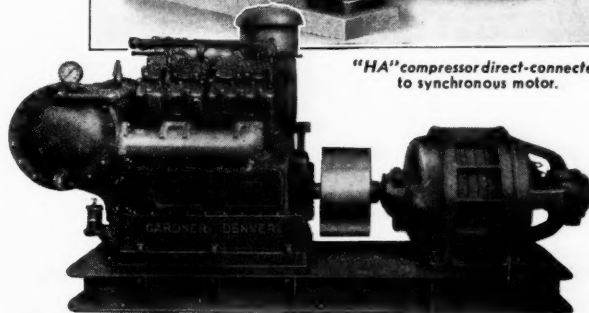
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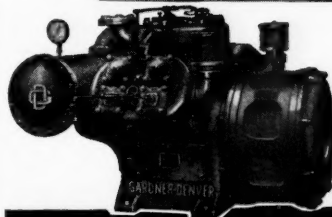
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SOUTH LEADS IN FURNITURE MANUFACTURE

By

J. T. Ryan,

Secretary-Treasurer, Southern Furniture Manufacturers' Association, High Point, N. C.

SOUTHERN furniture manufacturers coming away from the January markets in Chicago, New York and High Point report a 28 per cent increase in business during the first three weeks of 1936 over the same period of a year ago and ride the crest of a wave of optimism into the new year.

While December shipments were high generally over the industry and had their effect in business booked at the January markets, a canvass of manufacturers in the Southern territory reveals a general opinion that the furniture industry is well upon the road to recovery and that the majority of operators will swing into the profit columns in 1936, many of whom have shown only slight profits since the late twenties. Producers anticipate that their plants will be kept on normal operating schedules throughout the year.

The retail outlook at the January markets was bright. Attendance soared to near-record proportions at the nation's four important markets in Chicago, Grand Rapids, New York and High Point, and although unusually heavy December shipments had boosted retail stocks, retail buyer interest and the general optimism in retail furniture circles over prospects for the next few months' business has encouraged producers to feel that early Spring and Summer will bring further volume increases.

The markets generally were considered to be fair. Orders were not large but manufacturers who compared their business with bookings of a year ago

were satisfied. Only a few who compared the January term with the July markets were disappointed, but the Summer show is characteristically better than the January exposition.

A general price increase in the industry which was expected did not materialize to the degree anticipated; but rising production costs and the determination of producers to get into the profit columns is expected to lead to higher prices. Some increases were reported at the January shows. Prices held firm at the markets.

The volume of Southern furniture manufacturers for 1935 shows an increase of 30 per cent over 1934, and compares favorably with 1931 volume.

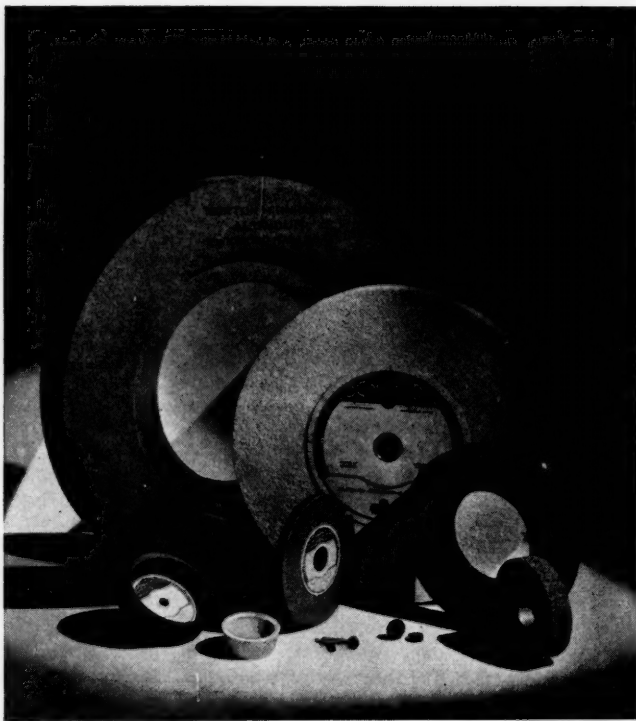
Furniture volume follows closely residential building, and with the greatly

increased residential building expected in 1936, the furniture volume should continue upward. Tremendous replacement demands are developing which, added to the new demands, should tend to bring furniture production back to pre-depression volume.

Southern furniture manufacturers now lead the country in the volume of wood and household furniture produced. Two Southern states, Virginia and North Carolina, produce nearly one-half of the bedroom and dining room furniture consumed in the country as a whole. The trend of Southern furniture production is toward better grades and remarkable improvement has been made during the past five years.

During the depression years large sums have been invested in new machinery, including conveyors, to reduce production costs. As a result of these improvements, furniture values offered today are greater than ever before in the history of the industry. For comparable values prices are at least 40 per cent below pre-depression levels. The objective of the Southern manufacturers is to reach the lower bracket incomes which were not sufficient, even during prosperous years, to provide an adequate and needed buying power for furniture.

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The Norton line of wheels runs from tiny mounted points $3/32" \times 1/8"$ to gigantic pulpstones six feet in diameter, 54" wide and weighing ten tons. There are many types of special wheels for special jobs—crankshaft grinding, roll grinding, surface grinding, tool grinding, saw and knife grinding, internal grinding, marble coping and countless other operations.

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W-536.

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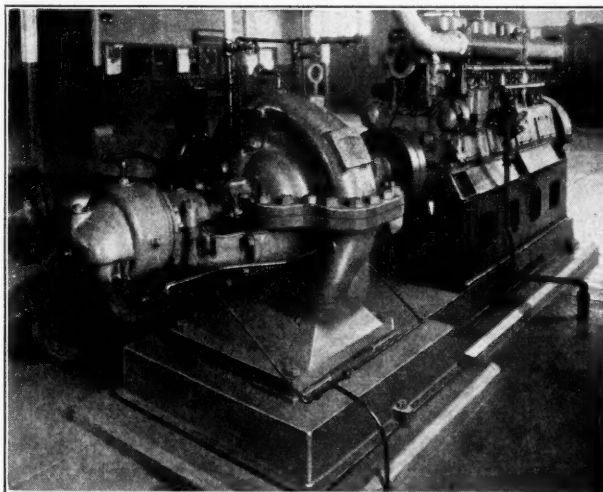
reliably awaiting any power interruption, Sterling engines are frequently called upon for sudden duty. In a few seconds they are placed in action, pumping water or driving generators, supplying the necessities of modern civilization.

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**900 Chrysler Bldg.
New York, N. Y.**

Savannah Hits Industrial Stride

(Continued from page 27)

and pays duties averaging \$35,000 a day, represents an investment of \$7,000,000.

Savannah Electric and Power Co.

New unit being built to cost \$365,000, providing an extra 7,500 kilowatts, or 25 per cent increase in production.

Mexican Petroleum Corporation of Georgia:

In the past few months the company has erected additional storage tanks. Its investment here now totals about \$1,000,000.

Central of Georgia Railway

Savannah-owned enterprise with investment around \$500,000, largely expended in 1935. Built on new site with large storage and distributing facilities on the river-front. Erected tanks to store 345,000 barrels of petroleum. This and other companies here now have storage facilities for one million barrels.

Colonial Oil Company

Replaced during 1935 by an entirely modern warehouse, an old warehouse destroyed by fire, representing an investment of approximately \$140,000.

New Flour Distributing and Blending Plants

Plants were established in 1935 by the Pillsbury Flour Milling Co., South-

ern Gold Medal Flour Co., and Nashville Roller Mills.

Savannah Wire Weaving Co.

Plant now in course of construction.

Other Industrial Developments

The Bethlehem Steel Co., in 1935, selected Savannah as a distribution point, recognizing its advantages from an economic standpoint for marketing steel products, by utilizing Savannah's rail and water facilities.

Several old and well established local industries, such as the Southern Cotton Oil Co., the Savannah Warehouse & Compress Co., Atlantic Creosoting Co., Southern States Iron Roofing Company, the Starland Creamery, Steel Products Company, and the Pierpont Manufacturing Company improved their manufacturing facilities and added new lines.

Miscellaneous Progressive Steps

In September, the Armstrong Junior College opened for its first session with 175 students, taking possession of a property valued at \$750,000, the gift of Mrs. Lucy M. C. Moltz of Lake Toxaway, N. C., as a memorial to her deceased husband, George Ferguson Armstrong, a leader of Savannah business. A new auditorium and class room building will be constructed.

Work is under way on a new high school building which, when equipped, will represent an expenditure of approximately \$1,000,000.

Additional facilities are being provided at the Savannah Public Library.

At the local airport work is under way in the construction of runways, aprons, and a large hangar, with total expenditures of \$175,000.

Water works improvements are approaching completion.

Expenditures for widening Bay Street West—to give a better approach to the city—and laying concrete streets, will total \$375,000 in 1936. In 1935 concrete highway ex-

penditures, city and WPA, involved \$100,000. At Savannah Beach, eighteen miles from the city, work began February 1, on a government erosion project requiring an expenditure of \$125,000.

Anticipating unprecedented tourist traffic the DeSoto Hotel made improvements costing \$50,000.

The Savannah Hotel, under new ownership, has prepared plans for 1936 improvements on which about \$100,000 will be expended.

The Hotel General Oglethorpe, on Wilmington Island, fifteen miles from the city, closed for several years, has been sold to the DeWitt Company, which has made many improvements and opened it as an all-year-round hotel.

In December, the City of Savannah sold 3 per cent improvement bonds to the extent of \$265,000. These bonds commanded 106.184, the highest price paid for any municipal bonds in the South, and among the very highest prices paid for municipal bonds in the United States. The City of Savannah has met all its obligations during the period of depression without issuing any scrip and is in better financial shape than when the depression began.

Savannah Port Authority and The Industrial Committee of Savannah, Inc:

During the year 1935, the municipal government transferred to the Savannah Port Authority, which has extremely broad powers under Amendment to the Constitution of Georgia and by virtue of State Laws, all the city's waterfront property, to be used in industrial developments. This property is valued at \$750,000. The city completed payments on a tract of 120 acres directly adjacent to the city limits, with 30 feet depth of water for a distance of 1,000 feet. This is now available for industries. The city also made liberal contributions to the Industrial Committee charged with the duty of contacting industrial leaders for the location of new plants at Savannah.

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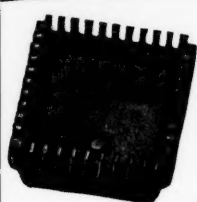
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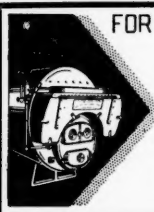
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Gray Cast Iron, Semi Steel, Nickel Iron Castings up to 15 tons, machined up to 20 ft. dia., Special Machinery, Pure Nickel, Monel Metal, Ni-Resist, Bronze and Aluminum.

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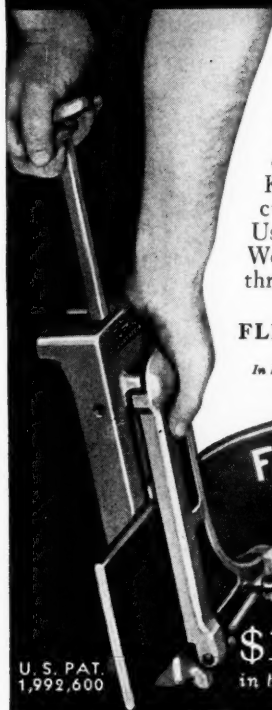
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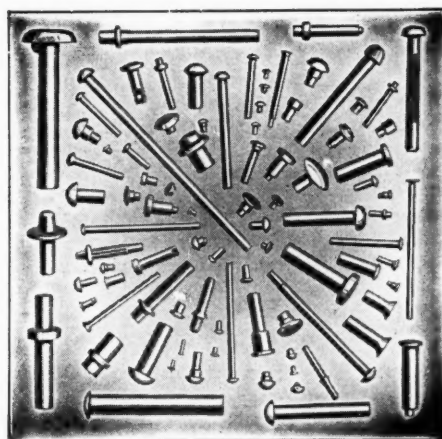
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Interchangeable Bolts and Nuts (Promco Brand) Special Screws and quality Rivets to order.

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Jackson Concrete Vibrators For W. Va. Dam Construction

Because it is essential that all concrete placed in dam construction be thoroughly compacted and consolidated homogeneously, concrete vibrators are being widely used for this type of construction. On the Tygart River dam, for example, under construction by the War Department, U. S. Engineer Corps, for reservoir purposes near Grafton, W. Va., concrete vibrating equipment is playing an important part. The general contractor is the Frederick Snare Corp., New York City. The Electric Tamper & Equipment Company, Ludington, Mich., has supplied eight of their model VS-4 Jackson Vibro-Spades, three model



Jackson Concrete Vibrator

VS-E1 Vibro-Spades, and a Jackson Puddler for the job, on which mass concrete containing large sizes of coarse aggregate is being placed. Jackson Vibrators, which are comprehensively described and illustrated in literature issued by the company, have been used for placing concrete on such representative dam projects as Calderwood and Chute a Caron dams of the Aluminum Company of America, the Koon dam near Cumberland, Md., Esia dam near Zamora Spain, and the Pine Canyon dam for the City of Pasadena, California, water supply.

Horton Steel Storage Tanks.—Chicago Bridge and Iron Works, Chicago, Ill., has issued the 1936 edition of Technical Bulletin No. 11 on Horton oil storage tanks, which has been prepared to present useful design and tabular data. While the context refers principally to tanks for petroleum products, formulae and riveted joint tables, with the substitution of proper factors, apply equally well to the design of tanks for other liquids. As far as possible, dimensions, capacities, weights and other reference units are set forth in the metric system.

Prevention of Termite Damage to Buildings.—Under this title The Wood Preserving Corporation, Pittsburgh, Pa., has issued a 17-page booklet for distribution soon to

architects and engineers in the Southwest and Southeast, and later to other sections of the country. Information in the publication was derived largely from publications and statements issued by the United States Bureau of Entomology.

Architectural Concrete Forms.—The Portland Cement Association, 33 Grand avenue, Chicago, Ill., has issued a 64-page booklet devoted exclusively to forms for architectural concrete work. The remarkable increase in the use of concrete as an architectural material, and a lack of information in both American and foreign literature on forms for concrete construction, prompted the publication of the booklet.

Classified Opportunities

Business Opportunities

\$6,000,000 annually leaves the South for lemons transported half way around the world. A good, thin skin, juicy, commercial size lemon, adapted to Florida growing conditions, has been developed and proved—a problem that took 20 years to solve. Advise the amount you could invest and we will submit a sound proposition offering unusual opportunities. DESOTO NURSERIES, DeSoto City, Fla.

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Terms
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Capital to join in manufacturing enterprise in the South with great future and earning capacity. For full particulars address J. F. B., care Manufacturers Record.

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3	75 KVA	2300/480 V	Westinghouse
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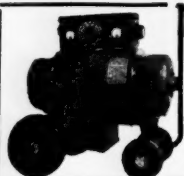
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100 HP	900	3/60/220	Westhouse synchronous
200 HP	450	3/60/410	Gen. Elec. slip ring
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300 AL. CH. Sl. Rg.	585
2-200 WEST. Sl. Rg.	900
200 G.E. Sl. Rg.	900
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250	G.E.	Harrisburg 4 v.	Fla.
312 (2)	G.E.	Skinner Uniflow	Ohio
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INDEX FOR BUYERS

Numbers Indicate Pages Where Products Can Be Found

Air Conditioning	65	Lumber (Creosoted)	39, 49, 55
Aluminum	8	Machinery (New & 2nd Hand)	70, 71, 72, 73
Architects	75	Machinists	66
Belting	14	Marble	57
Boilers	66, 67	Nitrate of Soda	53
Boxes (Paper)	69	Oil (Lubricating)	9, 10
Brick Machinery	59	Paper Making Machinery	13
Bridges	35, 41, 57	Perforated Metal	59
Buckets	59	Piling, Poles, etc. (Creosoted)	39, 49
Canning Machinery	76	Pipe (Cast Iron)	51, 80
Castings	67	Pipe (Clay)	57
Cement	33	Pipe (Steel and Iron)	73
Chemists	75	Professional Directory	75
Classified Opportunities	68	Pumps	59, 63
Clocks	68	Road and Street Material	59, 61
Compressors (Air)	63	Road Machinery	2
Contractors	61, 75	Roofing	29, 39, 47, 57
Cutter (Belt)	67	Rope (Wire)	79
Dredging Contractors	61	Sand and Gravel	59, 61, 75
Drills (Diamond & Shot)	75	Screens	59
Electric Light and Power	12, 45	Screws and Nuts	67
Electric Machinery	3, 70, 78	Sheets (Steel Galv., etc.)	6, 37, 47, 57
Engineers	61, 75	Shipbuilding	66
Engines (Diesel, Gas and Gasoline)	65, 66	Sites (Industrial)	68, 69, 73
Farm Land	52	Sprinklers	52
Fencing	46, 47, 48	Stains (Wood)	55
Filters (Water)	51	Stationers	69
Financial	45	Steel Plate Work	35, 43, 51
Flexible Shaft	66	Stone (Crushed)	59
Flooring	51, 55, 57	Structural Steel	35, 41, 51, 57
Galvanizing	59	Tanks and Towers	43, 51
Gears	67	Tarpaulins	59
Glass (Window)	11	Telephone Service	31
Granite	57	Tires	7
Grinding Wheels	64, 77	Tractors	2
Hotels	69, 73	Trailers	75
Insurance	44	Trucks (Motor)	4
Knives (Planing)	59	Unions (Pipe)	68

Where Passenger Fares And Freight Rates Go

OUT of the total operating revenues of \$3,271,566,822 received by Class I railroads in 1934 (latest year for which complete details are available) for freight, passenger, express, mail and all other transportation services, \$239,624,802, or more than 7 per cent went for taxes paid Federal, state and local authorities, exclusive of special assessments, according to a report of the Committee on Public Relations of the Eastern Railroads.

Of \$2,568,843,522 total expenses to operate lines \$1,441,921,873, or more than 56 per cent represents salaries and wages paid during the year to an average of 1,007,702 employees. These employees also received additional wages of \$77,429,752 charged to improvement to property. Railway employees received an average wage during the year of \$1.508.

Locomotive fuel, including 71,103,000 tons of coal and 1,868,381,000 gallons of fuel oil, cost \$190,507,037, while other materials and supplies required a total outlay of \$479,670,618.

Loss and damage claims, insurance, pensions and like disbursements ran to \$99,590,977. For depreciation \$192,386,636 was charged. Rent of cars and common facilities totaled \$125,854,519, while all other operating expenses amounted to \$38,911,762.

Total fixed charges of the Class I carriers in 1934 were \$612,944,324, including: For rent of leased roads, \$99,103,284; for amortization of discount on funded debt, \$2,923,692; for interest on borrowed money, \$510,917,348.

The operating receipts deficit for the year was \$149,845,826 which was reduced by the net miscellaneous income, mainly from securities owned and miscellaneous rents, of \$132,958,748, to a net corporate deficit of \$16,887,078. Cash dividends on railroad stock amounting to \$133,418,896, resulted in a total deficit of \$150,305,974.

Mining Congress Scores Tax Laws Affecting Business

Without mentioning any Administration laws by name, the American Mining Congress, which chose Howard I. Young, of St. Louis, Mo., as its president, at its thirty-eighth annual convention held in New York, assailed various New Deal measures.

It scored labor legislation, Federal administration of relief and characterized present Federal tax laws as brakes on business recovery. The Congress urged abandonment of Federal administration of relief.

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INDEX OF ADVERTISERS

A		I		R	
Albert & Davidson Pipe Corp.	73	Index for Buyers	74	Resale Dept.	70, 71, 72, 73
Albert Pipe Supply Co.	73			Richmond Fdy. & Mfg. Co.	67
Alexander, H. H.	73			Robert & Co.	67
Aluminum Co. of America	8			Roberts Filter Mfg. Co.	51
American Air Compressor Corp.	72			Robins & Co., Inc., A. K.	76
American Bridge Co.	41			Robinson & Orr	72
American Cable Co.	79			Rockford Elec. Equip. Co.	70
American Creosoting Co.	39			Ruberoid Co.	47
American Creosote Works	55			Ryerson & Son, Jos. T.	76
American Limestone Co.	59				
American Lumber & Treating Co.	55				
American Rolling Mill Co.	47				
American Steel & Wire Co.	56				
American Telephone & Telegraph Co.	31				
Anchor Post Fence Co.	46				
Appraisal Engineering Service	75				
Arundel Corporation	61				
Associated Gas & Electric System	45				
Atlanta Tent & Awning Co.	59				
Atlantic Creosoting Co., Inc.	55				
Atlantic Gulf & Pacific Co.	61				
Austin Bros. Bridge Co.	57				
B		J		S	
Bachrach & Co., E. W.	51	Jones Automatic Sprinkler Co.	52	Savannah Hotel	73
Baltimore Commercial Bank	45	Joyce, W. L.	73	Shimer & Sons, Samuel J.	59
Barber Asphalt Co.	39			Slaughter, Saville & Blackburn	75
Barrett Company	29			Smith, Oscar T. & Son Co.	69
Batson-Cook Co.	75			Smith & Co., W. M.	71
Belmont Iron Works	51			Snare Corp., Frederick	75
Belyea Company	70			Socony-Vacuum Oil Co.	10
Blair, Algernon	75			Southern Hotel	69
Boxley & Co., W. W.	59			Sprague & Henwood, Inc.	75
Bristol Steel & Iron Works	57			Stanhope, Inc., R. C.	72
Burford, Hall & Smith	51			Steel Products Co.	75
Burton Machine Co.	71			Steiner, George	59
C		K		Sterling Engine Co.	65
Cabot, Inc., Samuel	55			Strand & Co., N. A.	66
Cambridge Iron & Metal Co.	71			Superior Electric Mch. Co.	70
Carborundum Co.	77			Suttles, N. D.	73
Carolina Steel & Iron Co.	57				
Cast Iron Pipe Research Assn.	80				
Caterpillar Tractor Co.	2				
Cattle & Bros., Joseph P.	59				
Central Pipe & Supply Co.	73				
Certain-teed Products Co.	57				
Charleston Shipbuilding & Dry Dock Co.	66				
Chase City, Va. Chamber of Commerce	68				
Chattanooga Boiler & Tank Co.	51				
Chevrolet Motor Co.	4				
Chicago Bridge & Iron Works	43				
Cincinnati Mch. & Svp. Co.	71				
Cole Mfg. Co., R. D.	51				
Commonwealth & Southern Corp.	12				
Consolidated Products Co.	71				
Continental Steel Corp.	48				
D		L		T	
Dart Mfg. Co., E. M.	68			Table of Contents	5
Davis & Son, G. M.	51			Titusville Iron Works Co.	67
Delta Equipment Co.	71				
Denny, W. I.	70				
Diamond Grit Co.	75				
E		M		U	
Earle Gear & Machine Co.	67			U. S. Steel Corp. subsidiaries	41, 56
Eastern Machinery Co.	71				
Electric Apparatus Repair Co.	70				
Electric Service Co.	70				
Electrical Equipment Co.	70				
Eppinger & Russell Co.	55				
Equipment Corp. of America	72				
Erdle Perforating Co.	59				
F		N		V	
Fairbanks, Morse & Co.	3			Ven-ite Company, Inc.	55, 75
Fairfax Hotel	69			Virginia Bridge Co.	35
Firestone Tire & Rubber Co.	69				
Fiske-Carter Construction Co.	75				
Fletcher Sales Co.	71				
Flexible Steel Lacing Co.	67				
Florida Collier Coast Hotels, Inc.	69				
Freeman & Co., Samuel T.	72				
Frick Company	65				
Friend & Co.	73				
Froehling & Robertson	75				
G		O		W	
Gardner-Denver Co.	63			Walker Electrical Co.	75
General Electric Co.	78			Washington Hotel, Geo.	73
General Machine Works	66			Wellman Engineering Corp.	59
Georgia Marble Co.	57			Whitehead, G. A.	73
Glamorgan Pipe & Fdy. Co.	51			Whitman, Requaardt & Smith	75
Goodman Electric Co.	70			Wiedeman and Singleton, Inc.	75
Greenpoint Iron & Pipe Co.	73			Wiley & Wilson	75
Gregory Elec. Co.	70			Wood Preserving Corp.	49
Gulf Refining Co.	9				
Gulf States Steel Co.	37				
Guion, H. P.	72				
Guyan Machinery Co.	70				
H		P		Y	
Hardaway Contracting Co.	75			Youngstown Sheet & Tube Co.	6
Harrington & King Perforating Co.	59				
Heineken, W. P.	72				
Hercules Powder Co.	54				
Hewitt Rubber Corp.	14				
Hobart Bros. Co.	70				
Holt Hardwood Co.	57				
Hutton & Bourbonnais Co.	55				
Hyman-Michaels Co.	72				
I		R		S	
Index for Buyers	74			Savannah Hotel	73
Jones Automatic Sprinkler Co.	52			Shimer & Sons, Samuel J.	59
Joyce, W. L.	73			Slaughter, Saville & Blackburn	75
J		S		Smith, Oscar T. & Son Co.	69
Kaiser & Sons, L. E.	68			Smith & Co., W. M.	71
Kelly, D. J.	73			Snare Corp., Frederick	75
Kingsport Foundry & Mfg. Co.	67			Socony-Vacuum Oil Co.	10
K		T		Southern Hotel	69
Lancaster Iron Works	51			Sprague & Henwood, Inc.	75
Land Dept., Birmingham, Ala.	69			Stanhope, Inc., R. C.	72
Land, L. J.	70			Steel Products Co.	75
Lee Clay Products Co.	57			Steiner, George	59
Lindley Nurseries	75			Sterling Engine Co.	65
Lyon, Conklin & Co., Inc.	57			Strand & Co., N. A.	66
L		U		Superior Electric Mch. Co.	70
Manhattan Perforated Metal Co.	59			Suttles, N. D.	73
Marine Metal & Sup. Co.	71				
Maryland Pipe & Steel Corp.	73				
May Co., Geo. S.	45				
Maynard, Poole	75				
McCallum Inspection Co.	75				
Miller Electric Co.	75				
Mississippi Valley Equip. Co.	72				
Model Land Co. (Flagler System)	52				
Motor Repair & Mfg. Co.	70				
Mott Core Drilling Co.	75				
Mundt & Sons, Chas.	59				
Myers & Bro. Co., F. E.	63				
M		V		Y	
North Carolina Granite Co.	57			Youngstown Sheet & Tube Co.	6
Norton Company	64				
N		W			
O'Brien Machinery Co.	71				
Old Dominion Box Co.	69				
Oles Envelope Corp.	69				
Owensboro Sewer Pipe Co.	57				
O		Y			
Penn Electrical Eng. Co.	71				
Pennsylvania Drilling Co.	75				
Phillips Machinery Co.	70				
Phoenix Contract Co.	73				
Pittsburgh Plate Glass Co.	11				
Pittsburgh Steel Co.	47				
Pomona Pump Co.	63				
Portland Cement Asso.	33				
Power Plant Equipment Co.	70				
Progressive Mfg. Co.	67				
Prudential Insurance Co.	44				
Pusey & Jones Co.	13				
P		Y			
Ryerson & Son, Inc.	76				

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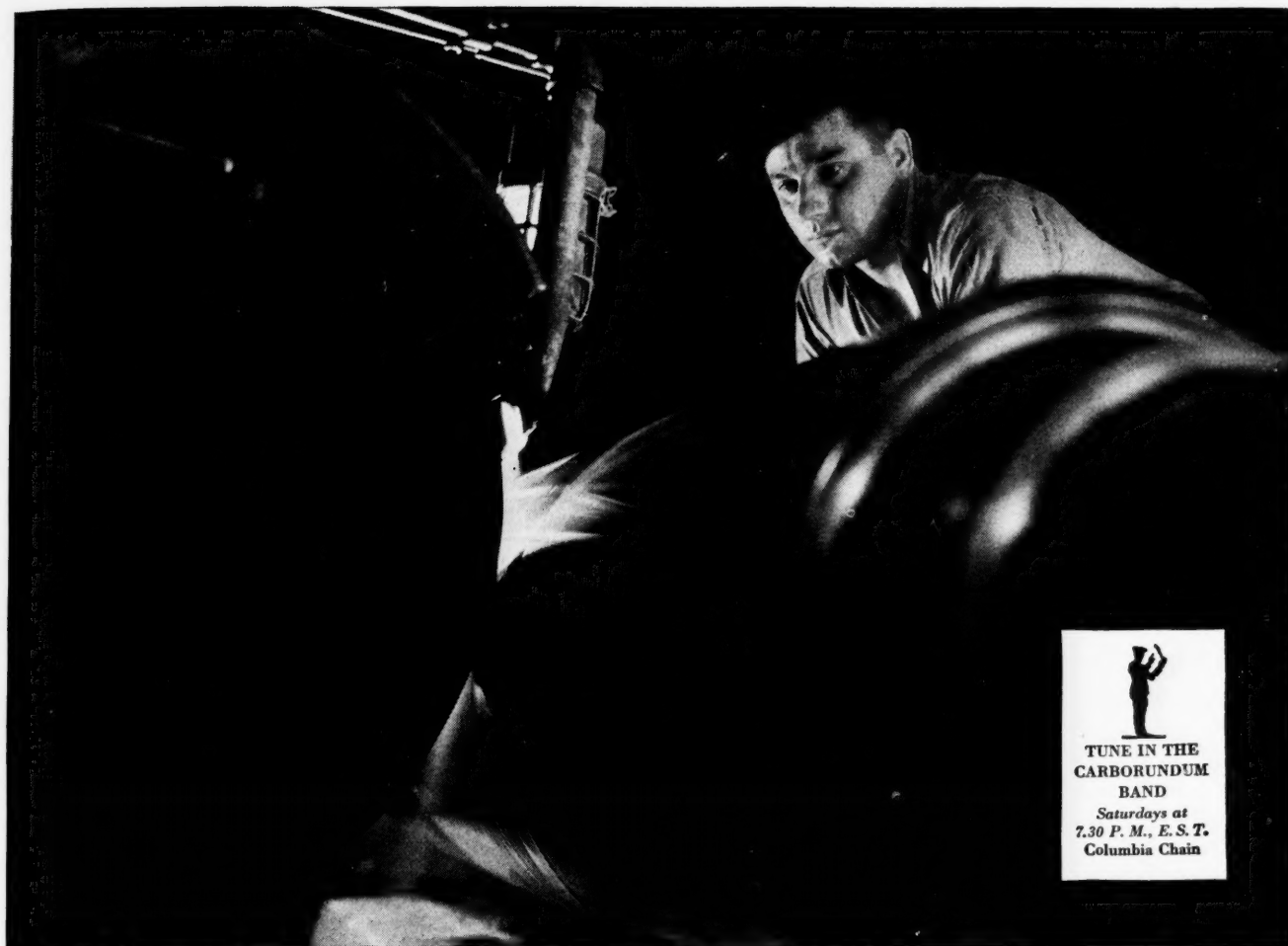
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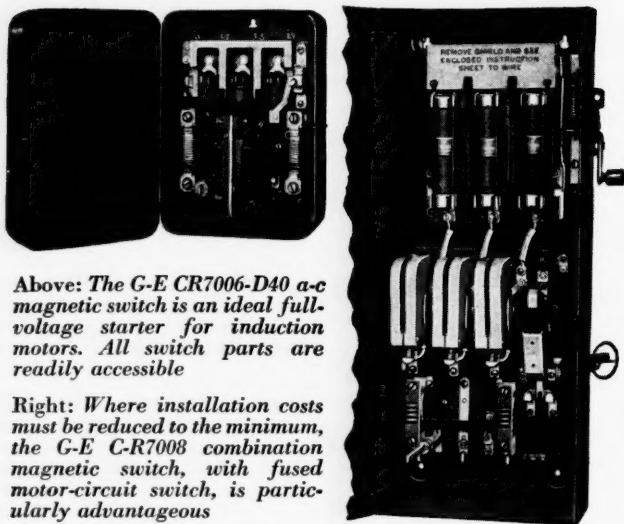
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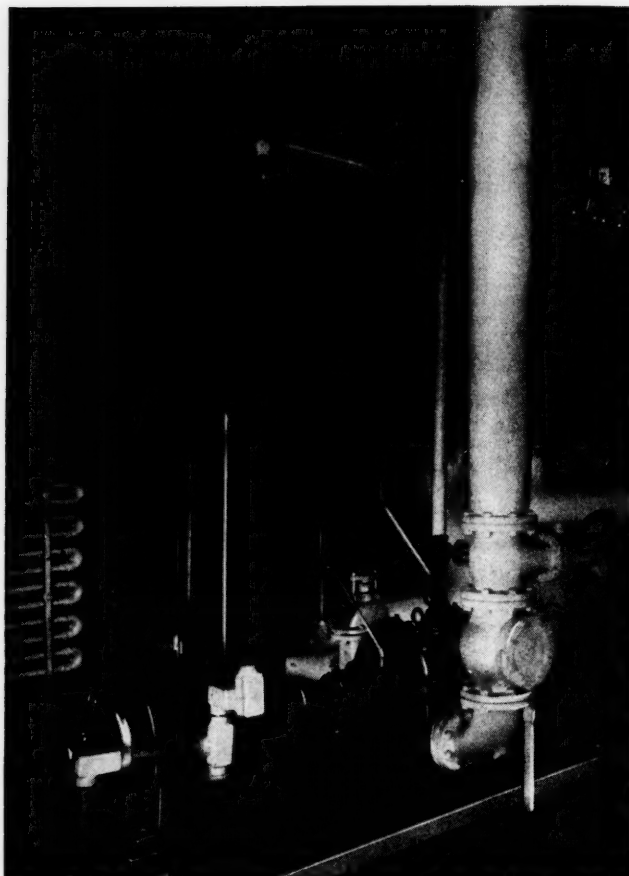
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